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are raised to prevent inundations. It forms it's hole very near the edge of the water, where it chiefly resides during the summer, feeding on small animals, fish, and grain. When winter approaches, it draws near some farm-house, and burrows in the corn, where it consumes much, but wastes more. In short, nothing eatable escapes it's voracity. It destroys rabbits, poultry, and all sorts of game; and scarcely any of the feeble animals can escape it's rapacity, except the mouse, which finds protection in it's little hole, where so large an enemy can by no means enter.

Buffon and Goldsmith assert that Rats frequently bring forth from fifteen to thirty at a time; but Pennant limits the number to eighteen. Their bite is not only severe, but dangerous; the wound being immediately succeeded by a large and painful tumefaction, which requires a considerable time before it can be healed. They are sometimes so daring as to turn on their pursuers, and endeavour to fasten on the stick or hand of the person who attempts to molest them.

The head, back, and sides, of the Rat, are of a light brown colour, mixed with tawny and ash; the breast and belly are a dirty white; the feet are naked, and of a dull flesh-colour, the fore ones being furnished with four toes, and a claw instead of the fifth. The length, from the nose to the tail, is about nine inches; and the tail is about the same length.

This animal differs principally in colour and size from the black, or common Rat, as it is generally called, though now no longer common. This new invader, possessing superior strength, has found means to destroy almost the whole species, and to occupy their retreats.

Indeed, not only the black Rat, but all other animals of inferior strength, were obliged to submit to the rapacity of the Norway Rat. The frog was utterly incapable of combat or defence. It had been intentionally introduced into Ireland, some years before the arrival of the Norway Rat, and began to multiply exceedingly. The natives were pleased with the addition of this harmless animal to the zoology of their country: it served to rid their fields of insects; and, as they imagined, contributed to render their waters more salubrious. But the Norway Rat soon put a period to it's propagation; for, being of an amphibious nature, it pursued the frog to the watery element, and seized it as it's prey. Frogs are therefore said to be once more become almost extinct in that kingdom; and the Norway Rats, having fewer animals to destroy, and consequently a more scanty provision, are also grown less numerous.

The prodigious increase of these animals would speedily over-run the whole country, did they not destroy each other. The large male Rat generally keeps in a hole by itself, and is dreaded by it's own species as their most formidable enemy. Thus are these pernicious creatures kept within due bounds; and that their fecundity may not prove inconvenient to mankind, it is repressed by their own rapacity.

All the stronger carnivorous animals entertain a natural antipathy against these Rats. The dog, though he detests their flesh, pursues them with alacrity, and attacks them with great animosity. Such dogs as are habituated to the destruction of these vermin, dispatch them with a single squeeze; but novices, which generally hesitate, are sure to

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prove sufferers. The Rat always takes advantage of a momentary delay; and, instead of waiting for the attack, becomes the aggressor, seizing it's enemy by the lip, and often inflicting a dangerous wound.

Cats are also great destroyers of Rats; and yet many are afraid either to assault them, or, when killed, to feed on them. Some indeed will pursue and seize the Rat, though they often meet with a vigorous resistance. When very hungry, the cat will sometimes eat the head; but generally contents itself with the victory. The weasel, however, is one of the Rat's most dangerous foes, from which it cannot easily escape; and man himself has contrived a variety of expedients to reduce the number of these ungrateful intruders.

When animals are either entirely useless or inimical; when they either increase our terrors, or subsist on our industry, without any grateful returns; mankind have ever deemed it salutary to study the most effectual means of their destruction: rewards have been proposed to stimulate ingenuity; and the arts of individuals have sometimes proved beneficial to the community. Most people know by experience what detriment is received from the animals now under consideration; and therefore it is hoped the following receipts for their destruction will be as acceptable as any part of their history.

The Dublin Society gave a premium, in 1762, to a person of the name of O'Hara, for this prescription: Take one quart of oatmeal, four drops of rhodium, one grain of musk, and two nuts of nux vomica, finely rasped. Form this mixture into pellets, and lay it in the holes and places which the Rats frequent.

Another celebrated receipt. Take of the seeds of flaves-acre, or louse-wort, powdered, one fourth part; and of oatmeal three parts: mix them well, and make them up into a paste with honey. Lay pieces of it in the holes and places frequented by Rats or mice, and it will infallibly kill such of them as are tempted to eat it.

However, Rat-catchers have adopted more compendious methods of destroying numbers at once. To effect this, their first object is to draw the Rats of any house to one proper situation, before they attempt to molest them; for there is such an instinctive caution in these animals, accompanied with such a surprising sagacity in discovering the most distant approach of danger, that if any of them are injured, or pursued in an unusual manner, the rest take the alarm, and become so very shy and wary, that they elude all the devices and stratagems of their pursuers for a considerable period afterwards. This place, where the Rats are to be assembled, should be a small room, into which all the avenues may be secured; and it should be situated as nearly as possible to the centre of the building.

Various means are used to allure these animals to a desired place. One of which, very easily and efficaciously practised, consists in trailing some pieces of their most favourite food (which should be of that kind which emits the strongest scent, such as toasted cheese, or broiled red herrings) from their holes or entrances to their accesses in every part of the house, or contiguous buildings, whence it is intended to draw them. At the extremities, and in different parts of the course of this trailed track, small quantities of meat, or some favourite food, should be laid, in order to bring



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bring the greater number into their tracks; and to encourage them to pursue it to the central place, where they are intended to be taken. At that place, when time admits, a more plentiful repast should be laid for them; and this trailing may be repeated for two or three nights.

Besides this method of trailing, some experienced Rat-catchers have adopted a shorter, and perhaps more effectual method of collecting these vermin; namely, the calling them by a kind of whistling-resembling their natural voice; and by this means, with the assistance of way-baits, they draw them out of their holes, and lead them to the repast prepared for them at the place designed for their capture. But this is much more difficult to be practised than the art of trailing; for, to acquire the exact notes of any animal so as to deceive it, is not very easily attained.

In attempting either of the foregoing methods, great caution must be used by the operator to suppress and prevent the effluvia of his feet and body from being perceived; which is effected by overcoming that scent by others of a stronger nature. In order to this, the feet should be wrapped in cloths impregnated with assafoetida, or other strong-smelling substances; and even oil of rhodium is sometimes used for this purpose, but sparingly on account of its dearness, though it has a very alluring as well as disguising effect. If this caution of avoiding the scent of the operator's feet, near the track, and in the place where the Rats are intended to be collected, be not properly observed, it will essentially obstruct the success of the pursuit; for they are very shy of coming where that scent is perceptible, as it intimates to their sagacious instinct the vicinity of the human species, whom they naturally dread.

When the Rats are thus enticed and collected, if time permits, and the whole number is intended to be destroyed, they are suffered to regale on what they like best, and then to go away without molestation, for two or three nights together; by which means those Rats which are not allured the first night, are brought afterwards, either by their fellows, or the effects of the trailing. But many Rat-catchers are unwilling to delay their operations so long, and therefore content themselves with what vermin can be drawn together in one night or two; but this never proves effectual, except where the building is small and entire, and the Rats but few in number.

Various methods are used to secure these creatures when brought into one company. Some entice them into a very large bag, the mouth of which is sufficiently capacious to cover nearly the whole floor of the place where they are collected; and this is accomplished by smearing some vessel, placed in the middle of the bag, with oil of rhodium, at the same time laying baits of their favourite food within the bag: this bag, which before lay flat on the ground, with its mouth spread open, is suddenly closed on the Rats. Others drive or frighten them by slight noises or motions into a bag of a long form; the mouth of which, after all the Rats have got in, is drawn up to the opening of the place by which they entered, every other avenue being secured. Others again intoxicate or poison them, by mixing with their repast the coculus Indicus, or nux vomica. A receipt for this purpose has been published, which directs four ounces of the coculus Indicus, with twelve of oatmeal, and two of treacle or honey,

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made up into a moist paste with strong beer: but if the nux vomica be used, a much less proportion will serve than is here given of the coculus. Any similar composition of these drugs with that species of food which has a strong flavour, and is generally admired by the Rats, to conceal the nature of the drugs, will be equally efficacious. If indeed the coculus Indicus be well powdered, and infused in the strong beer for some time, at least half the quantity here directed will suffice as well as the whole. When the Rats appear to be thoroughly intoxicated with the coculus, or sick with the nux vomica, they may be taken with the hand, and put into a bag or cage; the door of the place being first shut, lest any should have strength and sagacity enough remaining to make their escape.

**RAT, WATER;** the *Mus Amphibius* of Linnæus. This animal is nearly as large as the Norway Rat, but has a larger head, a blunter nose, and smaller eyes. Its ears are very short, and almost hid in the fur; and the tip of its tail is whitish. Its head and back are covered with long black hair, and its belly with iron grey.

This creature somewhat resembles the beaver; which induced Linnæus, in the first edition of his *Fauna Suecica*, to denominate it *Castor Cauda Lineari Tereti*. It is very expert at swimming and diving; and was supposed, both by Ray and Linnæus, to be web-footed; but this has been found to be a mistake, its toes pretty much resembling those of its kind. It is a native of Europe and North America. It never frequents houses; but generally resides near the margins of rivers, ditches, and ponds, where it burrows and breeds, usually bringing forth about six at a time. It feeds on frogs, small fish, roots and insects; and is itself the prey of the pike.

This animal and the otter are permitted to be eaten in France on maigre days.

**RAT, MOUNTAIN.** See MARMOTTE.

**RAT GOOSE.** An appellation given by some naturalists to a small species of wild Goose, common in some of the northern counties of England. See GOOSE.

**RAT-TAILED WORMS.** A species of flying Worms with long tails resembling those of Rats, whence they receive their name. They are of several sizes, and are found in different countries; but all change into two-winged flies, having a strong similitude to bees; and are therefore commonly called bee-flies.

**RATEL;** the *Viverra Ratel* of Sparman. A name whereby the Hottentots express an animal of the weasel kind which inhabits the country near the Cape of Good Hope, feeds on honey, and is extremely destructive to bees. It has a blunt black nose; no external ears, but a small rim round the orifice; a rough tongue; short legs; and very long claws, which are straight like those of the badger, and canulated beneath. The colour of the forehead, crown, and the whole upper part of the body, is a cinereous grey; the cheeks and space round the ears, throat, breast, belly, and limbs, are black; and a dusky line extends from each ear to the tail along the sides, beneath which there is another of grey. The length, from the nose to the tail, is forty inches; and the tail is twelve.

This animal preys in the evening; ascends the highest parts of the desert for the benefit of a view; and then puts one foot before its eyes, to prevent



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prevent the dazzling of the sun. The reason of it's seeking an eminence is for the sake of seeing or hearing the honey guide cuckoo, the cuculus indicator, which lives on bees, and as it were leads the way to their haunts.

The Ratel is incapable of climbing; and therefore, when the bees are lodged in trees, it tears the bark from their bottoms through rage and disappointment; by which sign also the Hottentots are certified that there is a nest of bees above.

The hair of this animal is very stiff; and the hide so tough, that it is not easily killed. It makes a stout resistance by biting and scratching; and dogs cannot easily fasten on it's skin: a pack which could tear a moderate-sized lion to pieces, can make no impression on the hide of this beast; and though they frequently worry it to death, they never leave any apparent wounds.

This seems to be the Stinkblinsem of Kolben, which he characterises as emitting a most noisome stench.

**RATSHER, or ALDERMAN.** An appellation given by Martin to a species of gull or mew.

**RATTLE-SNAKE.** A very formidable and poisonous reptile; a native of the New World only, being wholly unknown in the Old. It is sometimes found as thick as a man's leg, and six feet in length; but the most usual size is from four to five feet long. It resembles the viper in most particulars: like that animal, it has a large head, and a small neck; it's colour also is dusky; and it's fangs inflict the most terrible wounds. It differs, however, in having a large scale pendulous over each eye; and the eye also is furnished with a nictitating membrane, which preserves it from dust. It's scales are pretty hard; of an orange, tawny, and blackish colour, on the back; and of an ash-colour on the belly, inclining to lead. The male may be easily distinguished from the female by a black velvet spot on the head, and by the head itself being longer and more slender. But, exclusive of their superior malignity, that which more particularly distinguishes these from all other animals, is their Rattle; an instrument lodged in their tails, by which they make such a loud noise when in motion, that their approach may be readily perceived, and consequently the danger avoided. This Rattle, when separated from the tail, somewhat resembles the curb-chain of a bridle; and is composed of several thin, hard, hollow bones, linked together, and rattling on the slightest motion. Some are of opinion that the Snake acquires an additional bone every year; and that by this means it's age may be precisely ascertained: however this may be, certain it is that the young Snakes of a year or two old are destitute of Rattles; while many old ones have been killed which had eleven or thirteen joints each. These Rattles are shaken with prodigious noise and rapidity when the animals are disturbed; and then most creatures tremble at the sound, and instantly provide for their safety in flight. The vulture and the peccary, however, rejoice at this signal; hasten to their favourite prey; and seize the Snakes with the utmost alacrity.

The case is widely different with regard to almost every other animated being. The certain death which ensues from the bite of this terrible reptile creates a kind of solitude wherever it is heard. It moves along with the most majestic rapidity, neither offering to offend the larger ani-

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mals, nor appearing apprehensive of their insults. Unprovoked, it never annoys any creature but it's natural prey; but, when accidentally trod on, or pursued, it then makes a dreadful and desperate defence: it erects itself on it's tail, throws back it's head, and inflicts it's wound in an instant; then parts, and meditates a second wound; after which, if we may credit some authors, it remains torpid and inactive, without even attempting to escape.

The moment this wound is inflicted, though seemingly trivial, it is considerably more painful than the sting of a bee: this pain, far from abating, becomes every moment more excruciating and dangerous; the affected part swells; the venom soon reaches the head, which assumes a monstrous appearance; the eyes appear red and fiery; and the heart beats quick, with frequent interruptions. The pain soon grows insupportable; and some expire under it in five or six hours; but such as have stronger constitutions, survive the agony a few hours longer, but only to yield to an universal mortification, which quickly contaminates the whole frame.

A Virginian gentleman, walking in his fields, accidentally trod on a Rattle-Snake that had been lurking in a stony situation; which, enraged by the pressure, reared up it's head, bit his hand, and shook it's Rattles. The gentleman immediately perceived his dreadful situation; but, determined not to die unrevenged, he killed the Snake, and carrying it home in his hand, threw it on the ground before his family, crying out, 'I am a dead man! here is my murderer!' His arm (in which the swelling had already commenced) was instantly tied up near the shoulder; the wound was anointed with oil, and every precaution used either to check or extract the infection. Having a very sound constitution, he recovered, but not without experiencing the most various and dreadful symptoms for several weeks successively. The arm, below the ligature, appeared of various colours, with a writhing among the muscles, that to his terrified imagination represented the very motions of the animal which inflicted the wound. A fever ensued, the loss of his hair, giddiness, drought, debility, and nervous faintings; till, by slow degrees, a very strong habit co-operating with medicinal applications, expelled the latent malignity.

Several remedies have been tried to alleviate this calamity: a decoction of the Virginian Snake-root is considered as the most efficacious; and, at the same time, the head of the reptile bruised, and laid on the part affected, is judged to assist the cure. In general, however, it is found to be fatal; and the Indians, sensible of this, frequently dip their arrows in the poison lodged under the fangs of this terrible creature, when their savage disposition excites them to execute any signal revenge on their enemies.

Thus far the history of this animal is unanimously confirmed by every naturalist; but the subsequent accounts, though in general credited, are not so well ascertained. First, it's motion, which some describe as the swiftest imaginable; asserting, that it's Indian appellation *Hicacoalt*, or the wind-serpent, is to be understood of it's wonderful agility: while others affirm, that it is the slowest and most sluggish of all serpents, and seldom moves from it's place. In this opposition of opinions, there are others who assert, that it moves



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but slowly on level ground; but, when among rocks, that it goes at a prodigious rate. However, if we may argue from analogy, the opinion of those who contend for it's slow movement seems the most probable, as the viper, which it so nearly resembles, is remarkable among serpents for it's sluggish motions.

But leaving the consideration of this quality to future observers, we proceed to a peculiarity some authors ascribe to the Rattle-Snake, namely, that of charming it's prey into it's mouth; which some very flatly deny. The inhabitants of Pennsylvania, however, are said to have opportunities of observing this fascination every day: the Snake is often seen basking at the foot of some tree where birds and squirrels take up their residence; there, coiled on it's tail, it's jaws extended, and it's eyes gleaming like fire, it levels it's dreadful glance at one or other of the little animals above. The bird, or squirrel, too plainly perceives the meditated mischief, and hops from branch to branch with a timorous, plaintive sound, wishing to avoid, yet incapable of breaking through the charm: thus it continues for some time it's feeble efforts and complaints, but is still seen approaching lower and lower towards the bottom branches of the tree; till at last, as if vanquished by the potency of it's fears, it jumps down from the tree directly into the throat of it's hideous destroyer.

In order to ascertain the authenticity of this wonderful quality, a mouse was put into a large iron cage wherein a Rattle-Snake was kept, and the effect carefully observed: the mouse remained motionless at one end of the cage; while the Snake continued fixed at the other, with an eye glaring full on the timid animal, and it's jaws opened to their widest extent. The mouse, for some little time, appeared eager to escape; but every effort served only to increase it's terrors, and to draw it still nearer the enemy; till, after several ineffectual attempts to break the fascination, it was observed to run directly into the mouth of the Snake.

To the above relations the incredulous oppose their apparent improbability; and assert, that such a power ascribed to serpents is only a relic of a vulgar error, by which it was supposed that these creatures themselves could be charmed at the same time that they possessed the power of charming: they aver, that animals are so far from running down the throat of the Rattle-Snake when in captivity, that the reptile will not then eat any thing, but actually dies for want of subsistence. Perhaps this scepticism is only an effect of that modern philosophy which doubts of every thing that cannot be solved by human reason; and where that sort of evidence cannot be procured, denies the fact, to discharge the argument. That there is a particular effluvia of the eye in man, as well as in irrational animals, which is capable of a kind of fascination, has been admitted by many who abjure the marvellous, and are by no means the dupes of a blind credulity: may not the Rattle-Snake then possess a quality in a superior degree proportioned to it's malignity, which is at least sensibly felt in other creatures?

**RAUCA AVIS.** A bird of the halcyon kind, described by Nieremberg as frequenting the American rivers and lakes. It is almost as large as a duck. The crown of the head is black; and the breast and belly are white. The neck is naturally very long in proportion to the body; yet it

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may be occasionally contracted in a wonderful manner. The flesh is said to be proper for food.

Ray has classed this bird among those of whose existence he is doubtful; nor have succeeding naturalists cleared up the subject.

**RAVEN**, the *Corvus Corax* of Linnaeus. A bird of the crow kind, considerably larger than the carrion crow or the rook; and not only distinguished from them by it's size, but also by it's bill, which is somewhat more hooked than that of either of the other two. It's weight is about three pounds; it's length is upwards of two feet; the expansion of it's wings is rather more than four; and it's bill is strong and thick. The colour of the whole bird is black, finely glossed with deep rich blue, except on the belly, where it is dusky.

The Raven inhabits every region of the world; for, being naturally strong and hardy, it is very little influenced by the changes of weather. It bears with equal indifference the heat of the line and the cold of the polar climates. While other birds seem benumbed with cold, or pining with famine, the Raven continues active and healthy; busily employed in prowling for prey, or sporting in the coldest atmosphere. Though 'Black as a Raven,' is proverbial, yet this bird is sometimes found pure white, owing perhaps to the rigorous climates of the north: this change is wrought on the Raven, as on most other animals in that part of the world, where their cloathing, especially in winter, assumes a colour suitable to the country they inhabit.

The Raven is sufficiently docile in whatever is within the compass of any bird's abilities. He may be instructed in the art of fowling, like the hawk; like the spaniel, be taught to fetch and carry; and even to speak like the parrot. Dr. Goldsmith assures us that he may be brought to imitate any vocal music: 'I have heard,' says he, 'a Raven sing the Black-joke with great distinctness, truth, and humour.'

Considered as a domestic bird, the Raven possesses many qualities which render him extremely amusing: active, curious, and impudent, he goes every where; pries into every thing; runs after dogs; plays tricks with poultry; and with great skill and address insinuates himself into the favour of the cook-maid, sensible of her ability to reward him for his attachment and attention. By nature a glutton, and by habit a thief; not confined to petty depredations on the pantry or the larder, like a miser, he hoards what he can neither exhibit nor enjoy: a ring, a tea-spoon, a piece of coin, or any glittering bauble, are always tempting baits to his avarice; these he will watch opportunities to pilfer, and carry them to his magazine of curiosities.

In a state of nature, the Raven is a most voracious plunderer. He is by no means delicate in the choice of his food: whether his prey be living or dead, he greedily devours it; and, after having sufficiently gorged himself, flies to acquaint his companions, that they may participate of the spoil. If the carcase should happen to be already in the possession of a fox, a dog, or any other animal more powerful than himself, he usually sits at a little distance, a patient spectator, till the creature is satisfied. If he can discover no carrion, which from his exquisite scent he can smell at a vast distance, he then contents himself with



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with fruits, insects, and the accidental produce of the dunghill.

Ravens usually breed in trees, and lay five or six eggs of a palish green colour spotted with brown. They generally abound in the environs of large cities and towns; and are held in the same kind of veneration as vultures in Egypt, and for the same reason; because they devour those carcases, and that filth, which would otherwise prove inimical to health, as well as offensive to the smell. However, they are not found in the neighbourhood of towns alone; they often build in unfrequented situations, and expel all other birds from their vicinity: they will not even suffer their young to remain in the same district, but oblige them to depart as soon as they are able to provide for themselves. Martin, in his Description of the Western Isles, assures us, that there are three little islands among the number, each of which is occupied by one pair of Ravens, who will not permit any other birds to reside among them.

A kind of respect has always been paid to the Raven by the vulgar, from it's having been appointed by Heaven to feed the prophet Elijah when he fled from the wrath of Jezebel. The Romans, who deemed this bird ominous, paid to it the most profound veneration from motives of superstitious fear. Linnæus informs us, that the Swedes regard Ravens as so sacred, that none of the natives ever attempt to molest them. In the southern parts of that country, they fly to a great height when the weather is serene; at which times they utter a very singular cry, which may be heard at a considerable distance.

Pliny informs us that a Raven, which had been kept in the Temple of Castor, flew down into the shop of a taylor; who was so highly pleased with the visit of his new acquaintance, that he taught him several tricks; as also to pronounce the name of the Emperor Tiberius, with the names of the whole royal family. He was beginning to grow rich, from the presents he received of those who came to see this wonderful bird; when an envious neighbour killed the Raven, and deprived the taylor of all hopes of a future golden harvest. The Romans, however, punished the offender, and honoured the Raven with a magnificent funeral.

The Raven is the most remarkable of all birds for it's longevity. But though we cannot give implicit faith to what Hesiod asserts, namely, that one of these birds will live nine times as long as a man, yet it is certain that some of them have been known to live one hundred years. Indeed, if constant exercise, and a good appetite, be conducive to longevity, the Raven enjoys both in a superlative degree.

The ancients consecrated the Raven to Apollo, because it was supposed to possess a natural instinct to foretel future events.

**RAVEN, NIGHT.** An English appellation for a species of heron which flies in the night-time, and makes a very singular hoarse noise. It has been applied by some authors to the bittern, or *ardea stellaris*; but improperly, as it certainly should be appropriated to the *ardea cinerea* minor, or small grey heron.

**RAVEN, SEA.** A name by which some naturalists express the corvorant or cormorant.

**RAVEN FISH.** The mouth of this fish bears some similitude to a bird's bill: the body is about

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a span long; the back and tail are red; the belly is inclining to yellow; and there are two yellow streaks on each side. The flesh is firm, and wholesome. This fish is a native of the Oriental Seas.

**RAY.** A genus of cartilaginous fishes, with a broad, flat, thin body; five apertures on each side placed beneath; and the mouth situated quite below.

The whole of this kind bear a strong resemblance to each other in their figure; nor is it easy, without some experience, to distinguish them. The stranger to this dangerous tribe may imagine he is only handling a skate, when he is instantly benumbed by the torpedo; and he may suppose he has caught a thornback, till he is stung by the fire-flaire.

All fish of the Ray kind are broad and cartilaginous; swim flat on the water; and have spines on different parts of their bodies, or at their tails. The eyes and mouths of all of them are placed quite under their bodies, with apertures for breathing either about or near them. They all have teeth, or at least rough bones which answer the same purposes. Their entrails are widest towards their mouths, gradually diminishing to their tails; and even their tails are very different from those of other fishes, always terminating in bunches or points. But the most distinguishing peculiarity of the Ray kind is their prickles, which the different species have on different parts of their bodies: some are armed with spines both above and below; others have them on their upper parts only; some have their spines at their tails; some have triple rows of them; while others have them single. In some species, these spines are comparatively soft and feeble; but, in others, they are strong and piercing: the smallest generally incline towards their tails, and the largest towards their heads.

It is by their spines alone that these animals are distinguished from each other. The skate is rough on the middle of the back, and has a single row of spines on the tail. The sharp-nosed Ray has ten spines near the middle of the back. The fuller, or rough Ray, has it's spines indiscriminately dispersed over the whole back. The thornback has a triple row of spines on the back. The fire-flaire, or Sting-Ray, has one dangerous spine placed in the tail, about four inches from the body: this instrument, which is about six inches long, is of a flinty hardness; and the sides are thin, sharp-pointed, and closely and sharply bearded the whole length. While the torpedo is destitute of spines; but, in their room, is possessed of faculties the most extraordinary and potent in nature.

Such are the principal discriminations between these animals; which are as voracious as they are plentiful; and as dangerous to strangers as useful to those who can distinguish their differences.

These fish are the most numerous of all the larger ones of the sea; and, in some measure, they owe their numbers to their size. Excepting the white shark and the cachalot alone, there is no other fish which has a swallow large enough to admit them; and their spines make them still more dangerous morsels: yet the size of them is such, that even the shark himself is unable to devour them. Some have been caught on the British coasts which weighed upwards of two hundred pounds each. But this size is trifling when compared



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compared to their enormous bulk in other parts of the world. Labat tells us of a prodigious Ray, speared by the negroes at Guadalupe, that was thirteen feet eight inches broad, and above ten feet from the snout to the insertion of the tail. The tail itself was fifteen feet long; twenty inches broad at it's insertion, and tapering to a point. The body was two feet in depth; and the skin as thick as leather, and marked with spots. This enormous fish was deemed utterly unfit for an European banquet; but the negroes selected some of the nicest bits, and carefully salted them up, as favourite provision.

Large as the above may seem, it is very probable that we have only as yet seen the smallest of the kind. As they generally keep at the bottom of the sea, the greatest are seldom seen; and as it is possible they may have been growing for ages, the extent of their magnitude is unknown. It is however generally supposed, that they are the largest inhabitants of the deep; and, were we to credit Bishop Pontoppidan, there are some above a whole mile over.

The Ray-fish generally chuse such parts of the sea for their retreats as have a black muddy bottom: the large ones keep at the greatest depths; but the smaller approach the shores, and feed on such living animals as they can surprise, or whatever putrid substances fall in their way. Being naturally ravenous, they easily take the bait; but should it be taken up, and kept a day or two out of the water, they will not touch it. Indeed, almost all fish appear much more delicate in their choice of bait than of their ordinary food. By their motions, they seem to perceive the line, and to dread it: but the impulse of hunger is too powerful to admit of caution; and even though they perceive the danger, if sharp set, they swallow their destruction.

The Ray kind generate in March and April; at which times only they are seen swimming near the surface of the water, several males usually pursuing one female. In the act of coition they adhere so closely together, that the fishermen frequently draw up both together, though only one has been hooked. The females are prolific to an extreme degree, no less than three hundred eggs having been extracted from the body of a single Ray: these eggs are covered with a tough horny substance, which they acquire in the womb; for, before they descend into it, they are attached to the ovary pretty much in the same manner as in the body of a pullet. From this ovary, or egg-bay, as it is vulgarly called, the eggs drop one by one into the womb, and there receive a shell by the concretion of the organic fluids. When arrived at proper maturity, they are excluded, one or two at a time, and often at intervals of three or four hours. These eggs are usually first cast about the beginning of May, but the breeding season continues the greatest part of the summer. In October, when the whole quantity of eggs is excluded, the fishes become very poor and thin; but in November, they begin to improve, and gradually mend till May, when they are in the highest perfection.

Our fishermen take this kind chiefly in the winter season; but the indefatigable Dutch begin their operations earlier, and generally fish with better success than the British. The method practised by the fishermen of Scarborough is generally reckoned the best among the English:

## RAY

with which, as succinctly related by Pennant, we here present our readers.

‘ When they go to fish, each person is provided with three lines: each man's lines are fairly coiled upon a flat oblong piece of wicker-work; the hooks being baited and placed very regularly in the centre of the coil. Each line is furnished with two hundred and eighty hooks, at the distance of six feet two inches from each other. The hooks are fastened to lines of twisted horse-hair, twenty-seven inches in length.

‘ When fishing, there are always three men in each coble; and consequently nine of these lines are fastened together, and used as one line, extending in length near three miles, and furnished with above two thousand five hundred hooks. An anchor and a buoy are fixed at the first end of the line, and one more at each end of each man's lines; in all four anchors and four buoys made of leather or cork. The line is always laid across the current. The tides of flood and ebb continue an equal time on our coast; and, when undisturbed by winds, run each way about six hours. They are so rapid, that the fishermen can only shoot and haul their lines at the turn of the tide; and therefore the lines always remain on the ground about six hours. The same rapidity of the tide prevents their using hand-lines; and therefore two of the people commonly wrap themselves in the sail, and sleep while the other keeps a strict look out, for fear of being run down by ships, and to observe the weather: for storms often rise so suddenly, that it is often with extreme difficulty they escape to the shore, though they leave their lines behind them.

‘ The coble is twenty feet six inches long, and it's extreme breadth is five feet. It's burden is about one ton; and it is rowed by three pair of oars, being admirably constructed for the purpose of encountering a mountainous sea. They hoist sail when the wind suits.

‘ The five-men-boat is forty feet long, fifteen broad, and twenty-five tons burden. It is so called, though navigated by six men and a boy; because one of the men is hired to cook, and does not share in the profits with the other five. All our able fishermen go in these boats to the herring-fishery at Yarmouth the latter end of September, and return about the middle of November. The boats are then laid up till the beginning of Lent, at which time they go off in them to the edge of the Dogger Bank, and other places, to fish for turbot, cod, ling, skates, and various other kinds. They always take two cobbles on board; and when they come on their ground, anchor the boat, throw out the cobbles, and fish in the same manner as those do who go from the shore in a coble; with this difference only, that here each man is provided with double the quantity of lines; and, instead of waiting the return of the tide in the coble, they return to the boat, and bait their other lines; thus hawling one set, and shooting another, every turn of the tide. They commonly run into the harbour twice a week, to deliver their fish. The five-men-boat is decked at each end, but open in the middle, and has two long sails.

‘ The best bait for fish of all kinds is fresh herring cut in pieces of a proper size; and, notwithstanding what has been said to the contrary, they are taken there at any time in the winter, and all the spring, whenever the fishermen put down their



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their nets for that purpose: the five-men-boats always take some nets for that end. Next to herrings are the lesser lampreys, which come all winter by land carriage from Tadcaster. The next baits in esteem are small haddocks cut in pieces, sand-worms, muscles, and limpets: and lastly, when none of these can be found, bullock's liver is used. The hooks employed are much smaller than those used at Iceland and Newfoundland. Experience has shewn, that the larger fish will take a living small one on the hook sooner than any bait that can be put on; therefore such are always used as the fish can swallow. The hooks are two inches and a half long in the shank, and nearly an inch wide between the shank and the point. The line is made of small cording, always tanned before it is put in use. All the Rays and turbot are extremely delicate in their choice of baits: if a piece of herring or haddock has been twelve hours out of the sea, and then used as a bait, they will not touch it.

Such is the method of catching these fish, which usually keep near the bottom, particularly on the English coasts; and Duhamel observes, that the best weather for succeeding is a half calm, when the waves are just curled with a silent breeze.

But the extent of line used in this country (though, as heretofore observed, sometimes three miles in length) is inconsiderable when compared with what the Italians throw out in the Mediterranean. Their fishing is carried on in tartanes, vessels considerably larger than any of ours. They bait a line generally no less than twenty miles long, with about ten or twelve thousand hooks; to which they give the appellation of *parafina*; and the fishing is known by that of *pielago*: this line is not regularly drawn every six hours, as with us, but is suffered to remain in the sea considerably longer, and then requires the space of twenty-four hours to draw it. By means of this prodigious apparatus they take Rays, sharks, and other fishes; some of which often weigh above a thousand pounds. When any of this enormous magnitude are caught, the fishermen strike them through with a harpoon, in order to get them on board, and then dispatch them with all possible expedition.

This method of catching fish is obviously both fatiguing and dangerous; but the value of the capture is generally adequate to the risk. The skate and the thornback are excellent food; and their size, which is from ten to two hundred pounds weight, compensates for whatever trouble and expence there may be in the acquisition. But it sometimes happens that the lines are visited by very unwelcome intruders, namely, the rough Ray, the fire-flaire, or the torpedo: to these the fishermen have a mortal antipathy; and, on discovering them, even shudder at the sight. However, they are not always so much on their guard, but that they sometimes experience the different resentments of this noxious tribe; and then, instead of a prize, they meet a vindictive enemy.

RAY, CLAVATED. See THORNBAC.

RAY, ELECTRIC OR SMOOTH. See TORPEDO.

RAY, FULLER; the *Raja Fullonica* of Linnæus. This species derives its name from that instrument which fullers use in smoothing cloth, the back being rough and spiny: the nose is short and sharp; there are a few spines at the angle of each eye; the nictitating membrane is fimbriated; and the teeth are small and sharp. On the upper

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part of the pectoral fins there are three rows of spines pointing towards the back, and crooked; on the tail there are three rows of strong spines, the middle row extending up part of the back; and the tail is slender, and somewhat longer than the body. The upper part of the body is cinereous, usually marked with black spots; and the lower part is white. This fish is equal to the skate in size. At Scarborough, where it is very common, it is called the white hans, or gullet.

RAY, ROUGH; the *Raja Asteria Aspera* of Rondeletius. Pennant informs us that he caught this species in Loch Broom, in Scotland. Its length, from the nose to the tail, was two feet nine inches; and the tail was nearly of the same measure. The nose was short; before each eye stood a large hooked spine; and behind, another beset with smaller ones. The upper part of the body was of a cinereous brown colour mixed with white, spotted with black, and entirely covered with small spines. On the tail were three rows of large spines; besides which, it was interspersed in every part with smaller ones, irregularly disposed. The fins and the under side of the body were equally rough with the upper.

RAY, SHAGREEN. This fish, called also the French Ray, caught near Scarborough, is nearly equal in size to the skate. It is narrower than the more common Rays; the nose is long, and very sharp; the pupil of the eye is sapphirine; there are two short rows of spines on the nose; on the corner of each eye there is a semicircular row; on the tail are two rows, continued a little way up the back, small, slender, and very sharp; and along the sides of the tail there is a row of minute spines, intermixed with innumerable little spiculæ. The upper part of the body is of a cinereous brown hue, closely set with minute shagreen-like tubercles, nearly resembling the skin of the dog-fish; and the under side of the body is white. The teeth are slender, and extremely sharp; and from the nose to the origin of the pectoral fins there is a tuberculated space.

RAY, SHARP-NOSED; the *Raja Oxyrinchus* of Linnæus. This fish sometimes measures seven feet in length, and upwards of five in breadth: the nose is long, slender, and sharp-pointed; the body is smooth, and very thin in proportion to the size; and the upper part is ash-coloured, marked with numerous white spots, and a few black ones. The tail is thick; towards the end there are two small fins; on each side there is a row of small spines; and in the middle a single row, which runs some way up the back. The lower part of the body is wholly white; and the mouth, which is large, is furnished with a number of small teeth bending inwards.

This fish has been supposed to answer the description of the *bos* of the ancients; which was unquestionably some enormous species of Ray, though we cannot pretend to determine the particular kind. Oppian files it the broadest among fishes; and adds an account of its predilection for human flesh; with its method of destroying men, by overlaying them till they are drowned. Phœn gives us nearly a similar relation. And Ulloa confirms their description, giving the very same account of a creature found in the South Seas, the terror of those who fish for pearl: the natives term it *manta*, or the quilt, from its surrounding and enfolding the unfortunate diver till he is suffocated; therefore the negroes never descend



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without a sharp knife, to defend themselves from the attacks of this formidable animal.

**RAY, WHIP.** This species, which has been considered by some authors as the Jaberete of Marcgrave, was caught at Scarborough in 1769; but the fisherman, through ignorance, destroyed the body, preserving only the tail, which was exhibited to an ingenious naturalist of that place; and is described as being three feet long, extremely slender and taper, and destitute of any fin at the extremity.

This fish is likewise said to be a native of the Sicilian seas; but at present it may be considered as an obscure species. Pennant gives it the appellation of Whip from the extreme length and slenderness of its tail.

**RAY, STING.** See FIRE-FLAIRE and PASTINACA MARINA.

**RAYTE, OR RAYCHE.** A term by which some ichthyologists express the common skate, or flaire.

**RAZOR-BILL.** A bird of the auk kind; the *Alca Torda* of Linnæus. Its length is about eighteen inches; and the expansion of the wings is twenty-seven. The bill is two inches long, arched, very sharp at the edges, and of a black colour; the upper mandible is marked with four transverse grooves; the lower with three; and the widest is white, intersecting each mandible. A white line extends from the eye to the bill; the head, throat, and entire upper side of the body, are black; the wings are of the same colour, except the tips of the lesser quill-feathers, which are white; the tail is composed of twelve black feathers; the whole under-side of the body is white; and the legs are black.

These birds, in company with the guillemots, appear in our seas about the beginning of February, but do not settle to breed till the beginning of May. They take up their residence on the ledges of the highest rocks impending the sea, sitting close together, and in rows one above another. The female properly lays but one egg, which is of an extraordinary size in proportion to her bulk, being about three inches long, and of a white or pale sea-green colour, irregularly spotted with black. Should this egg happen to be destroyed, the Razor-Bill will lay another; and if that is removed, then a third. However, she makes no nest, but deposits her egg on the bare rock: and though multitudes lie contiguous, by a wonderful kind of instinct, each bird distinguishes her own. What is also very amazing, the Razor-Bill fixes her egg on the smooth rock with so exact a balance, as to secure it from rolling off: but should it be removed, and then attempted to be replaced by the hand of man, it would be extremely difficult, if not absolutely impossible, to bring it to its former equilibrium.

The inhabitants of the coasts where these eggs are laid, esteem them a very desirable kind of food; and, in order to secure it, run the greatest hazards; being lowered from above by ropes, depending on the strength of their companions at the top, whose footing is often so unstable, that they are forced headlong down the precipice, and meet a dreadful and inevitable death.

**RAZOR-FISH;** the *Coryphæna Novacula* of Linnæus. The head of this fish is large and compressed; and the whole body is flat. There are scarcely the very rudiments of a snout; for the line, which terminates the fore-part of the head,

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runs almost perpendicularly from the top of the head to the mouth, which is small, and armed with little sharp teeth, except four long ones, which are placed forwards. The eyes are small, and placed on the top of the head. At the origin of the back there is a fin, which extends from thence to the tail; and another rises opposite to it on the lower part of the belly, reaching from the vent almost to the tail. The head and covers of the gills are marked with several blue lines; the belly and tail-fins are yellowish and greenish, chequered in a very pleasing manner; the dorsal fin is red, sprinkled with a few blue spots; the rest of the body is of a yellowish red hue; and the tail, which is broad, is covered with large scales.

This fish is common in the isles of Rhodes and Malta; and its flesh is tender, easy of digestion, and exceedingly nutritive.

**RAZOR-SHELL.** A genus of bivalve shells, of an oblong figure, and open at both extremities. At the hinge, a subulated tooth is turned back, and often double.

The Razor-Shell, called also the pivot, very much resembles the haft of a razor; and, by means of this shape, it is better enabled to dive into the soft sand at the bottom of the ocean. All the motions of this little animal are confined to sinking or rising about a foot downwards or upwards in the sand; for it never quits the spot where it was first planted. From time to time it rises about half way out of its hole; but if disturbed in the smallest degree, sinks perpendicularly down again. Exactly over the place where it buries itself, there is a small aperture, through which the animal respire, or imbibes the seawater. On the desertion of the tide, this hole may be easily distinguished by the fishermen who are in quest of it: and their method of alluring the Razor up from the depth of its retreat is by sprinkling a little sea-salt on its hole; which dissolving, no sooner reaches the creature below, than it instantly rises straight upwards, and displays about half its length above the surface: this appearance, however, is instantaneous; and if the fisher does not seize the opportunity, the shell with great facility sinks to its former depth; no salt can allure it a second time; but it remains unmolested, unless the fisherman gives himself the trouble of digging it out.

Several species of this shell are found on the British coasts, from nine inches to half an inch in length. The names of the most curious are, the pod, sheath, scymetar, pellucid, suboval, and kidney Razor-Shells; their different appellations expressing some peculiarity in their figure, conformation, or colour. The ancients ate the inclosed animals as well as the moderns: Athenæus speaks of them as great delicacies; and peculiarly grateful to widows, but for what reason we are not informed.

**RECURVIROSTRA.** A genus of birds of the order of grallæ: the characters of which are; that the bill is long, slender, very thin, depressed, and bent upwards, whence the appellation; and that the feet are palmated, and have three toes. The avoſetta is the only known species of this genus.

This bird is somewhat larger than the common lapwing; the beak is about two inches long, black, slender, flatted, and bent upwards; the head is moderately large, and very round; and both



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both that and the upper part of the neck are black; but above and beneath each eye there is a small white spot. The breast, belly, and throat, are all of a snowy whiteness; the back is variegated with black and white; the wings are of the same colour; the tail is wholly white; and the legs, which are naked far above the knees, are long and blueish.

These birds are very common in Italy, and are sometimes seen about the English shores. When flying, they carry their necks and long legs quite extended; and make a shrill noise, expressive of the syllable *Twit* twice repeated; whence the country people give them the name of yelpers. They feed on worms and insects, which they scoop with their bills out of the sand, leaving alternate semicircular marks wherever they have been in quest of prey.

The *Recurvirostra* lays two eggs about the size of those of pigeons, of a whitish colour tinged with green, and marked with large black spots.

**RED-BIRD, OF CAROLINA.** The size of this bird is equal to that of a sky-lark: the bill is thick, strong, and of a palish red colour, with a black list round the base; the head is adorned with a crest, which rises and falls at pleasure; and the whole body is of a fine scarlet colour, except the back and tail, which are of a dark red. The hen is brown, with a tincture of red on her wings and other parts.

This bird is very common in America, where the natives cage it for the sake of its song as well as beauty.

**RED-BIRD, SUMMER.** This bird has a thick strong bill of a yellow colour; the whole plumage is of a beautiful red or scarlet hue, except the tips of the greater quills of the wings, which are of a dusky red; the coverts of the insides of the wings are of a bright red; the insides of the quills, as well as the under side of the tail, are of a reddish ash-colour; and the legs and feet are of a dusky brown.

**RED-BIRD, OF SURINAM.** Edwards, who first figured and described this bird, acknowledges himself incapable of referring it with certainty to any particular genus of European birds: Linnaeus, however, in his nomenclature, gives it the appellation of *Ampelis Carnifex*. The bill is slightly arched, and of a dirty red colour; the top of the head, the lower part of the belly, the thighs, rump, and tail, are of a beautiful scarlet; the sides of the head, the neck, back, breast, and wings, are of a dull dirty red; the tail-feathers are black about half an inch from their tips; the legs, feet, and claws, are of a dirty yellow hue; and the hinder parts of the legs have small feathers or hairs down to the very feet.

**RED-BREAST;** the *Motacilla Rubecula* of Linnaeus. A bird well known in most parts of Europe. The bill is dusky; the forehead, chin, throat, and breast, are of a deep orange colour; the head, the hind part of the neck, the back, and the tail, are of a deep ash-colour, tinged with green; the wings are darker, their edges inclining to yellow; and the legs and feet are dusky.

Though the Red-Breast is so very petulant as to live in a state of continual hostility with its own tribe, yet it is remarkably social with the human race; and in the winter season becomes almost domestic, seemingly claiming the protection of man. Most of the soft-billed birds, such as the nightingale, the swallow, and the timouse, leave us in the winter, when their insect food is no

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longer found in abundance; but the Red-Breast continues with us the whole year; and endeavours to support the famine of winter by chirping round the warm habitations of mankind; and by entering those shelters from which the inclemency of the season is artificially expelled, and where insects themselves, attracted by a similar cause, are the most numerous.

This bird breeds differently in different places: in some countries its nest is usually found in the crevice of some mossy bank, or at the foot of a hawthorn in hedge-rows; but, in others, it makes choice of the thickest coverts, and conceals its nest by means of oak-leaves. Its eggs are usually four or five in number, of a dull white colour, with reddish streaks.

The song of the Red-Breast is remarkably sweet and soft; and the more to be valued, as we enjoy it during the greatest part of the winter, and early in the spring. In the summer it is equally musical; but then its modest notes are drowned in the general warble of the season. Many of the autumnal songsters seem to be the young cock Red-Breasts of the same year.

Several of our English poets have honoured this bird with particular notice in their lays. Thompson gives a just and elegant description of its domestic qualities during winter; though perhaps it is more indebted to the author of *The Babes in the Wood* for being such an universal favourite in this country, than to all other causes combined. But not only our poets, but even painters, have exerted their respective talents in recommending this harmless songster to our attention; and surely, when genius labours to meliorate our sensations, and to awaken the most generous passions, it demands our love and admiration.

**RED-BREAST, BLUE;** the *Rubecula Americana* of Catesby. This bird has a slender, sharp-pointed bill, of a dusky colour; the whole upper side, head, neck, back, wings, and tail, are of a fine full blue colour, except the extremities of the greater quills, which are black; and the whole under side, from the bill to the coverts under the tail, is of a reddish colour. The thighs are of a faint light red; the legs and feet are brown; and the claws are dusky.

Edwards, who first described this bird from a specimen communicated by the late Mr. Peter Colinson, says it was imported from Bermudas; and Catesby, in his *History of Carolina*, figures and describes a bird resembling this in almost every respect.

**RED-EYE;** the *Cyprinus Erythrophthalmus* of Linnaeus. This fish, to which the Germans give the appellation of *Rootang*, bears a strong resemblance to the common river-bream, except that it is somewhat thicker. The fins are entirely of a red colour; and the whole body of the fish is stained with a very beautiful red, particularly the irides. When the scales are removed, the body is of a greenish hue.

The Red-Eye seldom exceeds one foot in length; and its flesh is extremely well flavoured. Some English authors call it the rudd; and other Latin ones denominate it *rutilus latior*, and *rubellus fluviatilis*. It is very common in many of the German and British rivers; and is in season the whole year, except about the month of April, when it spawns: during that period the male is marked with numerous white spots on its head, and



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and is universally more rough than at other seasons.

**RED-GAME.** A provincial appellation for the fowl common in the mountainous parts of Yorkshire and other counties; to which some give the name of the gor-cock.

**RED-POLE.** This bird, which is supposed to be a native of Pennsylvania, has a black, slender, sharp-pointed bill; the top of the head is red; the upper side of the body, from the head to the tail, is green; and the under side is of a bright yellow hue, the breast and belly being spotted with red down the shafts of the feathers. The wings and tail are dusky, edged with yellow, except some of the longest quills, which are wholly blackish; and the legs and feet are of a dusky flesh-colour.

**RED-POLE, YELLOW.** This bird, which was first figured and described by Edwards from a live specimen, appears to be a variety of the Canary bird, whose note it imitates. The upper mandible is dusky, the lower of a yellowish flesh-colour; the eyes are dark; and the crown of the head is of a bright reddish orange colour. The sides and hinder part of the head, the throat, breast, belly, thighs, and coverts beneath the tail, are of a bright yellow hue. The hinder part of the neck, the back, wings, and tail, are covered with dusky plumage, fringed with olive green, somewhat more yellowish on the rump than on other parts; and the legs and feet are of a blueish flesh-colour.

**REDSHANK;** the *Scolopax Calidris* of Linnæus. An aquatic bird; called also *gallinula erythropus*, and *callidrys*. It is about the size of the common plover; the back is of a greyish or brownish green colour spotted with black; the neck is grey; the throat is variegated with black and white; the breast is white, with a few loose streaks of black; and the wing-feathers are diversified with black, brown, and white. The bill is long, slender, and shaped like that of a woodcock, reddish at the base, and blackish lower down; and the legs are of a most beautiful red colour.

This bird, which breeds in fens and marshes, is found on most of our shores; conceals itself during the winter in gutters; and is generally observed singly, or at most in pairs. When disturbed, it flies round its nest, making a noise like the lapwing. It lays four eggs, of a whitish colour tinged with olive, and marked with irregular spots of black, particularly on the thicker end.

Pennant mentions a variety which he distinguishes by the epithet of the Cambridge Redshank, that is considerably larger than the common one. The head, the upper part of the neck, and the back, are of a cinereous brown hue; the lesser coverts of the wings are brown edged with dull white, and barred with black; the primaries are dusky; the secondaries are barred with dusky and white; the under side of the breast and neck are of a dirty white colour; the tail is barred with cinereous and black; and the legs are of an orange red.

**REDSHANK, SPOTTED;** the *Chevalier Rouge* of Britain. This species is equal in size to the greenshank; the head is of a pale ash-colour, marked with oblong streaks of black; and the back is dusky, variegated with triangular spots of white. The coverts of the wings are ash-coloured, spotted in the same manner; the quill-

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feathers are dusky; the breast, belly, and thighs, are white; the middle feathers of the tail are ash-coloured; the side-feathers are whitish, barred with black; and the legs are long, and of a beautiful bright red.

**REDSTART;** the *Motacilla Phoenicurus* of Linnæus. The bill and legs of the male of this beautiful bird are black; the forehead is white; the crown of the head, the hind part of the neck, and the back, are of a deep blue grey colour; the cheeks and throat are black; the breast, rump, and sides, are red; and the two middle feathers of the tail are brown. In the female, the top of the head and the back are of a deep ash-colour; the rump and tail are of a duller red than those of the male; the chin is white; the lower side of the neck is cinereous; and the breast is of a paler red.

This bird appears in Britain only in the spring and summer; and is observed to visit us nearly about the same time as the nightingale. It builds its nest in some hollow tree, the hole of a wall, or other building, lining it with moss externally, and internally with hair and feathers. It lays four or five eggs, resembling those of the hedge-sparrow, but rather paler, and more taper at the less extremity; and if these eggs are but touched, the Redstart is so remarkably shy, as instantly to forsake its nest. Its note is soft and melodious; but being naturally sullen, it is tamed with extreme difficulty. It is remarkable for shaking its tail, and moving it horizontally, after the manner of a dog when fawning.

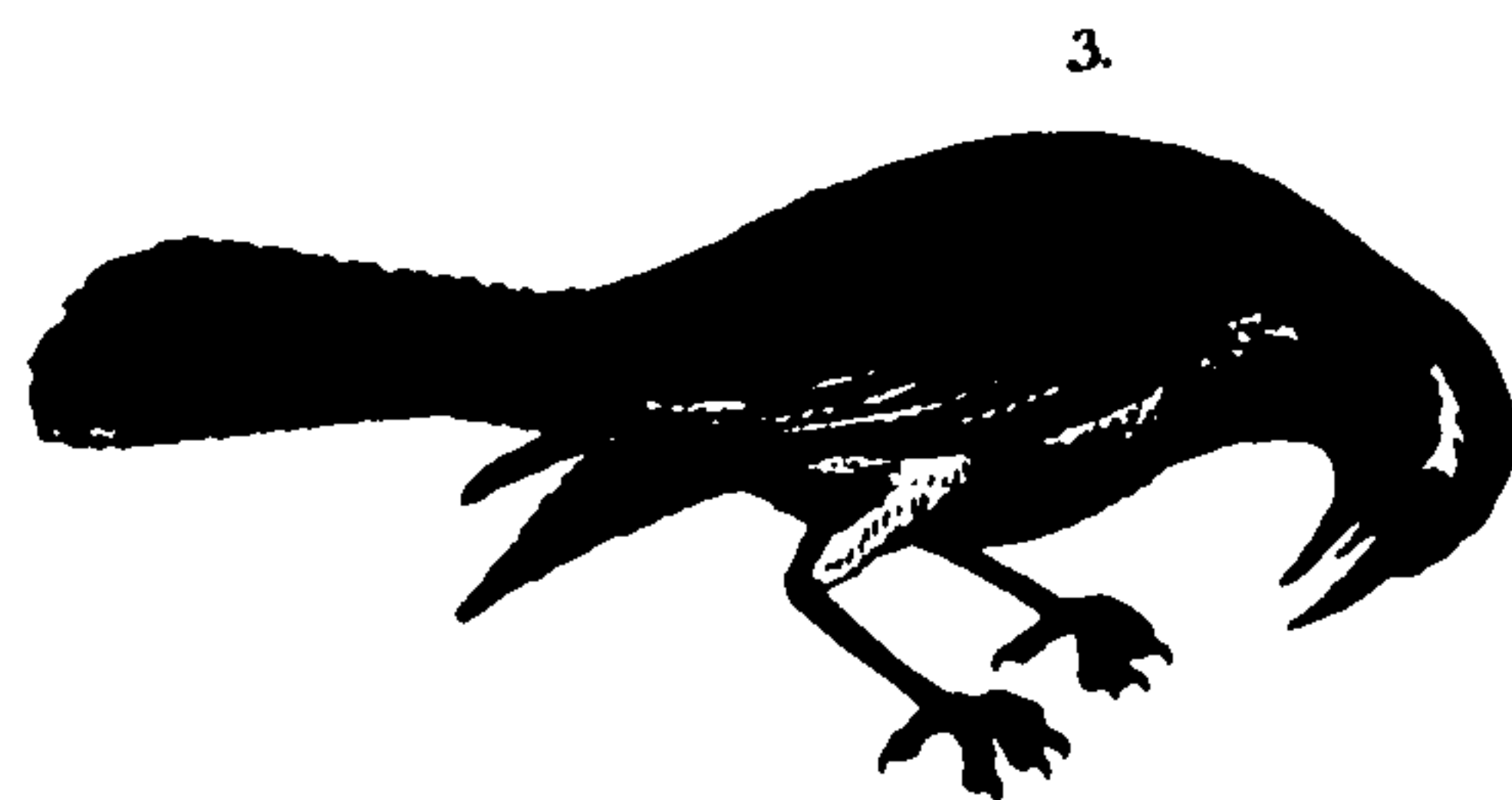
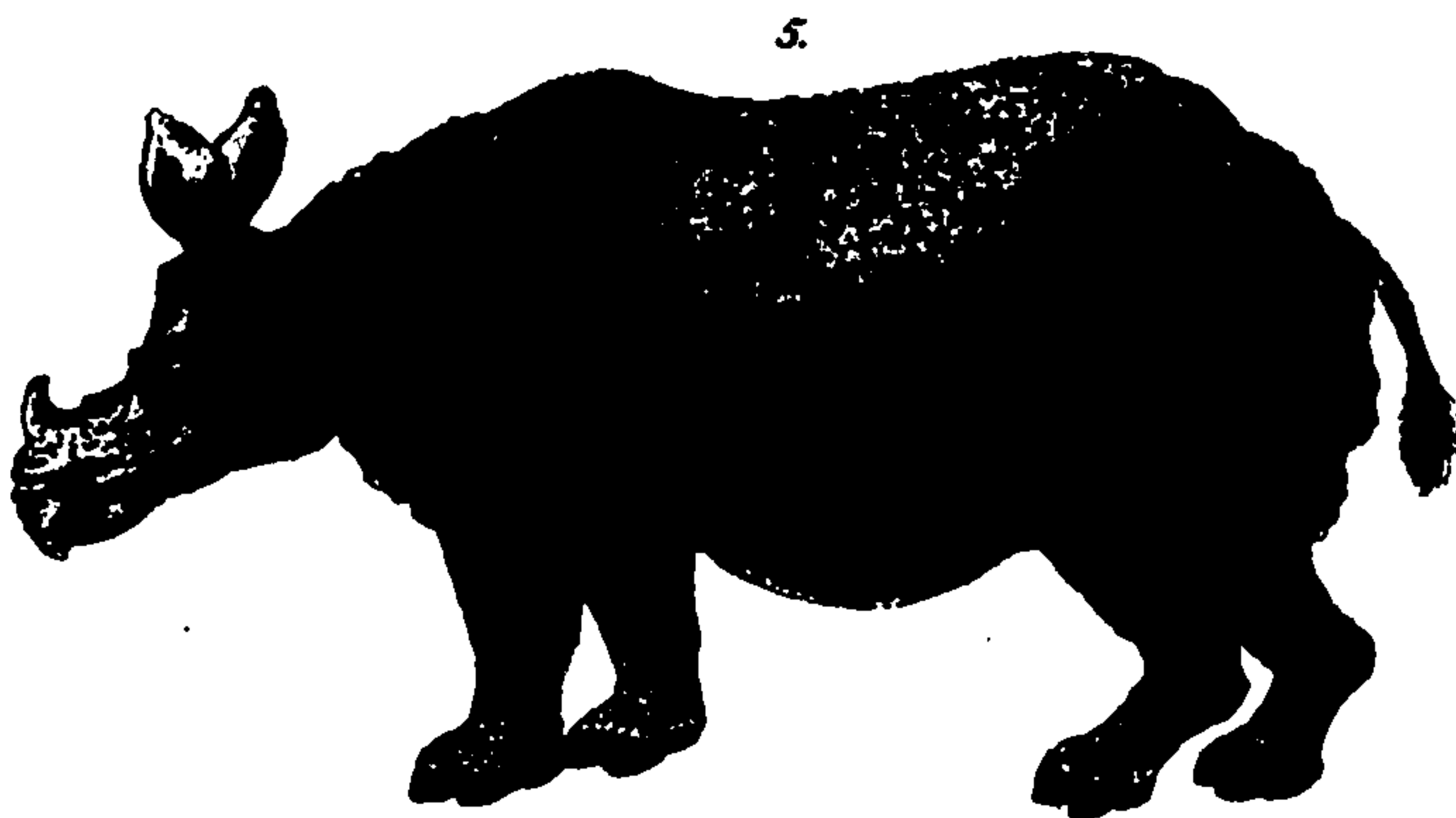
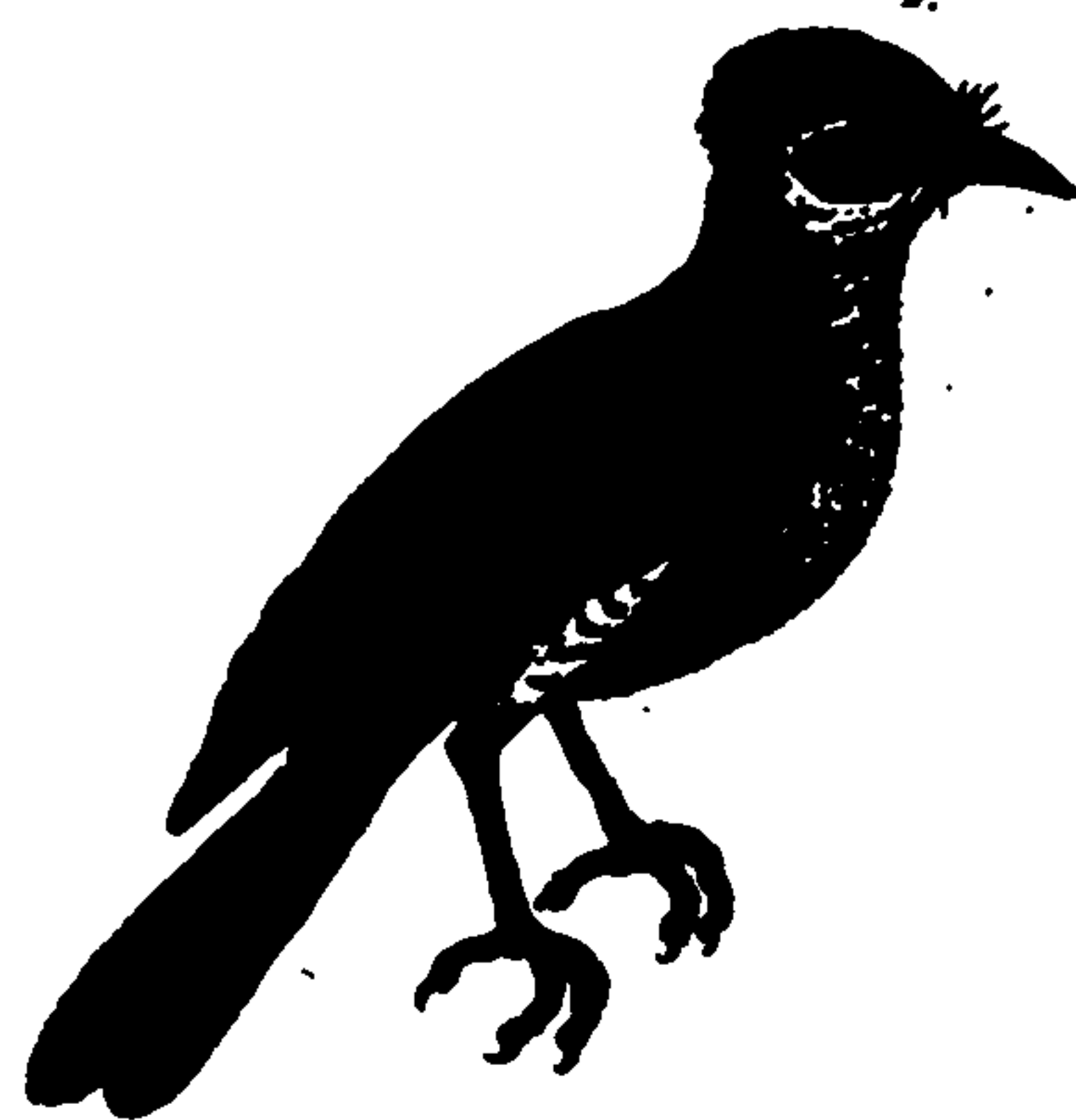
**REDSTART, INDIAN.** The bill of this bird is dusky at the base, and black at the point; the top of the head is covered with long, soft, black feathers, hanging over behind in the shape of a crest; and under each eye there is a scarlet spot, encompassed with white on the lower side. The throat, breast, belly, and thighs, are white; but the sides of the neck and breast are black. The hinder part of the neck, the back, wings, and tail, are of a dark brown hue; the ridge of the wing next the breast is whitish; the feathers about the vent, and the coverts beneath the tail, are of a vivid red; and the legs and feet are dusky.

This bird is a native of Bengal, in the East Indies.

**REDSTART, BLUE-THROAT.** This species, which is supposed to be a native of Spain or the Barbary coast, is somewhat larger than the common Redstart. The bill is straight, slender, and blackish; the upper side of the head, neck, back, and wings, is of a dark dirty brown hue, the edges of the feathers being somewhat lighter; a dull orange-coloured line passes above the eye; and from the angles of the mouth another line of the same colour runs under the eye, beneath which there is a narrow line of faint blue. The throat, from the bill downwards, is white; on the lower part of the neck there is a blue semilunar spot, the angles pointing upwards; the beginning of the breast, for a small space, is orange-coloured, narrower in the centre, reaching a little farther down on the sides; the remainder of the breast, belly, thighs, and coverts under the tail, is white; the two central feathers of the tail are dark brown; and the rest on each side are orange, with blackish tips half an inch deep. The covert-feathers on the upper side of the tail are of a dirty orange colour; and the legs, feet, and claws, are brown.

**REDSTART, GRAY.** This species is about the shape





1. AMERICAN REDSTART. 2. BLUE - THROAT REDSTART. 3. GREY REDSTART.

4. INDIAN REDSTART. 5. FEMALE RHINOSEROS.



## RED

shape and size of the common Redstart: the bill is slender, straight, and of a dark brown colour; the forehead, for a little space above the bill, together with the sides of the head and throat, are black; and on the forepart of the head, behind the black, there is a narrow space of white, extending backwards above the eyes on each side. The top of the head, the neck, back, breast, and coverts of the wings, are of a blueish grey or ash-colour; the quills somewhat incline to brown; and the exterior webs of the middlemost are white. The rump and coverts of the tail, both above and beneath, are of a bright orange colour; the two central feathers of the tail are brown; the succeeding ones on each side are orange with small brown tips; and the extreme feathers are wholly orange-coloured. The lower belly and thighs are white; and the legs, feet, and claws, are dusky.

This bird was imported from Gibraltar by Catesby, and is probably a native of Old Spain.

**REDSTART, AMERICAN.** This bird has a straight, slender bill, of a dusky colour, paler towards the head, and black at the point; the basis of the upper mandible being beset with black hairs or bristles. The head, neck, back, and wings, are black, except the bottoms of the quills, which are orange-coloured; and the sides and coverts under the wings are of a bright orange colour: the black from the lower part of the neck extends in an obtuse point into the breast; whence proceeds a white list along the belly, gradually widening; so that the thighs, lower belly, and coverts under the tail, are white, except a few black spots in the lower part of the belly. The two middle feathers of the tail are wholly black; the side-feathers are orange-coloured at their bottoms, and black at their tips; and the legs, feet, and claws, are black.

This bird is a native of Jamaica. Sir Hans Sloane describes it under the appellation of the small black and orange-coloured bird: and Catesby, in his History of Carolina, informs us, that it frequents the shady woods of Virginia; that it is seen only in summer; and that the hens are brown.

**RED STONE POLL.** A name by which some English ornithologists express a species of linner.

**RED TAPE FISH.** This fish is common in the Italian Seas; and at Genoa is known under the appellation of cavagiro, and fraggia. The body is long and slender, flatter on the sides than an eel, and grows gradually more slender from the head to the tail. The back and sides are wholly of a palish red colour; but the belly is white. The scales of this fish are so small, that they are scarcely perceptible. It has a single row of slender sharp teeth; and near each side of the upper jaw there is a black spot. The eyes are large, and surrounded with silvery irides. The dorsal fin reaches from the head to the tail; and opposite to it there is another from the vent to the tail: in full grown subjects, these are of a beautiful yellow hue on the lower part; but the upper edge is of a reddish purple. The exterior rays of the tail are of a purple colour; but those in the middle are yellow.

**REDWING,** the *Turdus Iliacus* of Linnæus. This bird, called also the wind thrush, or swine-lark, is somewhat smaller than the common thrush, and less spotted. The back, neck, and

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head, are of the same colour with those of the common thrush; but the sides under the wings, and the feathers which line the wings, are orange, or dusky red. The belly and breast are whitish; the throat is yellowish, marked with brown; and the wings are chefnut, with some variegations.

This bird feeds on insects; and in this country is migratory, appearing in large flocks about the same time as the fieldfare, and departing nearly at the same season with that bird.

The flesh of the Redwing is bitterish, and therefore less valued than that of congenerous birds. In this country it has a disagreeable piping note; but in Sweden, during the spring, it sings very melodiously, perching on the top of some tree among the forests of maples. It builds its nest in hedges, and lays six blueish green eggs spotted with black.

**REED-SPARROW, OR BUNTING;** the *Emberiza Schœnielus* of Linnæus. The head, chin, and throat of the male, are black; the tongue is livid; and at each angle of the mouth a white ring commences, which encircles the head. At the approach of winter, the head changes to hoary; but, on the return of spring, it resumes its pristine jetty hue. The whole under side of the body is white; the back, the coverts of the wings, and the scapulars, are black, deeply bordered with red; the two middle feathers of the tail are of the same colours; and the three succeeding ones are black. The exterior web, and part of the interior of the extreme feather, are white. The head of the female is rust-coloured, spotted with black; she wants the white ring round the neck; but, in other respects, resembles the male.

This bird frequents marshy places, most commonly among reeds, from whence it receives its name. Its nest is worthy of observation for the artful manner in which it is constructed, being fastened to four reeds, and suspended by them, like a hammock, about three feet above the water: the cavity is deep, but narrow; and the materials consist of rushes, fine bents, and hairs. It lays four or five eggs of a blueish white colour, irregularly marked with purplish veins, especially on the larger ends.

The Reed-Sparrow is much admired for its voice; and, like the nightingale, adds to the nocturnal harmony of the grove.

**REEVE.** An appellation usually given to the female of the avis pugnax or ruffe. See **RUFFE**.

**REGESTOLA.** A name by which some ornithologists express the larger butcher-bird; a very small hawk, not exceeding the common thrush in magnitude, but extremely fierce and voracious.

**REGINA AURARUM.** An appellation given by Nieremberg to a bird called by the Mexicans *Cozcacoauhtli*, and which receives its name from a faculty of flying against the strongest winds. It is equal to the eagle in magnitude: the whole body is of a blackish purple hue, variegated with a brownish yellow and a deep black; the wings are a mixture of black, yellow, and grey; the legs are red; the claws are strong and sharp; and the beak resembles that of a parrot. It has some rugose skin on the forehead, and about the beak; and its tail is black above, and white beneath. It feeds on all kinds of reptiles and vermin; flies very high; and is a native of Mexico.

Extraordinary medicinal virtues have by some been



been ascribed to the feathers of this bird; but sober naturalists reject the assertion as fabulous.

**REIN-DEER.** An animal of the deer kind, a native of the hyperborean regions; remarkable for its tractability; its perseverance; and its utility to mankind, both as a faithful servant and as nutritious aliment. See **DEER, REIN.**

**RELL.** An English appellation for the white-bellied mouse, with a blackish back, and long body. Naturalists are much divided in their opinions concerning the qualities, and even the existence, of this creature.

**REMORA, the Sucking-Fish.** This fish, which bears some resemblance to the herring, is the Echeneis of the Greeks; and has been celebrated from remote antiquity for its adhesive qualities. It belongs to the genus of echeneis, and class of thoracici in the Linnæan system.

According to the Artedian and Linnæan descriptions, its characters are these: the branchiostegic membrane on each side contains about ten bones; the head is thick, depressed, naked, and marked on the upper side with transverse rough striæ; the body, which is of a hoary colour, is oblong, roundish, and naked, but somewhat compressed; the dorsal fin is oblong, and placed very far towards the tail; the under jaw is longer than the upper; and in each there are a great number of teeth. The fins are seven in number, two pectoral, two ventral, one anal, one dorsal, and one caudal. The striæ of the head, which are from eighteen to twenty-four, are rough and transverse, but divided as it were into two series by a middle longitudinal line; and these striæ or ridges are the instruments by which the fish can affix itself to any other animal or substance.

Linnæus mentions two species of the echeneis, the Remora and neucrates: the former is distinguished by having a bifid tail, and eighteen striæ on the head; the latter by having an entire tail, twenty-four striæ, a larger body, and sharper fins. Both species are natives of the Indian Ocean.

The ancients, who ascribed marvellous qualities to whatever they could not sufficiently comprehend, unanimously believed that the Sucking-Fish was capable of stopping a vessel in full sail, or a whale in swimming; and hence it obtained the appellation of Remora, from Remorando.

Catesby, however, justly remarks, that several of these fishes together possess no more efficacy than shells or corals, which by adhesion occasion a slight interruption: and also assures us, that he has taken four or five of them from the body of a shark.

**REMORA MUTIANI.** A term by which some authors express the genus of shells called also concha venerea and porcellana. See **PORCELLAIN SHELL.**

**REPTILES.** A genus of animals so denominated from their creeping or advancing on their bellies: or they may be defined as a genus of animals and insects which, instead of feet, rest on one part of the body, while they move forward with the remainder. Of this class are earth-worms, snakes, and various other creatures.

Naturalists have remarked the peculiar aptitude of conformation in Reptiles for their destined motion. Thus, with regard to the earth-worm, Dr. Willis observes, that the whole body is only a chain of annular muscles; or, according to Derham, but one continued spiral muscle; the orbicular fibres of which, by being contracted, render

each ring narrower and longer than before; and by this means the creature is enabled, like the worm of an auger, to bore its passage into the earth. Its reptile motion may also be explained by a wire wound on a cylinder, which, when stripped off, and one end extended and held fast, will bring the other nearer: so the earth-worm having shot out, or extended its body, which is formed with a wreathing, it takes hold by the assistance of its minute feet, and so contracts the hinder part of its body. Dr. Tyson adds, that when the fore part of the body is extended and applied to a plane at a distance, the hind part relaxing and shortening, is easily drawn towards it as a centre. In the earth-worm, the feet are disposed in a quadruple row the whole length of the body; and with them, as with so many hooks, it fastens down sometimes this, sometimes that part of its body, to the plane; and at the same time extends or drags after it another.

The progressive motion of serpents is effected after a manner somewhat different, originating from a diversity in their structure; their bodies being composed of a compages of bones articulated together. In these creatures, the body is not drawn together, but as it were complicated, part of it being applied on the rough ground, and the rest ejaculated and shot from it; which being set on the ground in its turn, draws the other after it. The spine of the back, which in these animals is variously wreathed, has the same effects in springing as the joints of the feet in other animals; the springs or leaps of this tribe being performed by means of muscles, which extend the plicæ or folds.

In the Linnæan distribution, Reptiles constitute an order of animals under the class of amphibia. Their distinguishing characteristics are; that they respire through the mouth by means of lungs only; and are furnished with four feet. To this order appertain four genera, namely, the tortoise, frog, dragon, and lizard, comprehending eighty-four species. Linnæus, it ought to be observed, has referred the generality of those animals, which other naturalists have reputed Reptiles, to the order of serpents, and class of vermes or worms. See **SERPENTS and WORMS.**

**REUTELE.** An appellation by which some ichthyologists express the umbla minor, or red charr; a fish common in the German lakes, and those of the northern parts of England and Wales.

**REFX MULLORUM.** A term used by some writers to signify a species of mullet; distinguished from the other kinds by having a prominent belly, and no beards under the mouth.

**RIHAQUUNDA.** A Brazilian fish, about ten inches in length and two in breadth, nearly of the same size from the head to the tail. The head and mouth are shaped almost like those of a pike; and the jaws are extremely rough, though destitute of teeth. The irides are brown; and from the origin of the back a fin extends almost to the root of the tail, which is three inches long, and nearly one broad, except towards the extremity, where it is somewhat broader. The tail is covered with a hard black shell; and the scales are of a moderate size. The back and sides are of a dark grey hue, with a silvery gloss, and on each side there is a row of round black scales, each about the size of a pea; and between them many thin spines. All the fins, and the tail, are of a gold colour, except the dorsal fins, which are



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spotted with blue. The lateral lines are black; and on each side of the tail there is a bright yellow line.

**RHEA.** In the Linnæan system, a species of the struthio, or ostrich; synonymous with the *namduguacu* of the Brazilians.

**RHINE.** An Aristotelian appellation for a species of squalus, the *Squatus* of Isidore and Pliny.

Artedi distinguishes this from the other species of squalus by the circumstances of it's having no pinna ani, and the mouth being situated in the extremity of the snout.

**RHINGAU.** A name by which some ichthyologists express the *lavaretus*, a small fish caught in the German lakes, and exported in pickle to most parts of the commercial world.

**RHINOBATOS.** A flat cartilaginous fish of the *squatina* or monk-fish kind; but differing from it in having a longer body, a more pointed head, and the mouth placed at a greater distance below the extremity of the snout. This fish, which is common in the Mediterranean, grows to the length of three or four feet. In the Linnæan system, it is a species of ray.

**RHINOCEROS.** A genus of quadrupeds of the order of *belluæ* in the class of *mammalia*, according to the Linnæan distribution; and so called from a horn arising from the nose. There are only two known species of this genus, viz. the *Rhinoceros* with only one horn, and the *Rhinoceros* with two horns.

**RHINOCEROS, ONE-HORNED;** the *Rhinoceros Unicornis* of Linnæus. This animal, next to the elephant, is the most powerful of quadrupeds. It is commonly twelve feet long from the tip of the nose to the insertion of the tail; it's height is from six to seven feet; and the circumference of it's body is nearly equal to it's length. In magnitude, therefore, it makes a near approach to the elephant; and, if it appears smaller to the eye, the reason is, because it's legs are much shorter.

But it differs still more from the elephant in it's natural powers and intelligence; for nature has not endowed it with any qualities whereby it is elevated above the ordinary rank of quadrupeds: it is destitute of all sensibility in it's skin; neither has it hands, to enable it to profit by the sense of touching; and, instead of a trunk, it has only a moveable lip, to which all it's means of dexterity or address are limited. It's chief sources of superiority over other animals consist in it's strength; it's magnitude; and the offensive weapon on it's nose, which is entirely peculiar to the kind. This weapon is a very hard horn, solid throughout it's whole extent, and situated more advantageously than the horns of ruminating animals, which defend only the superior parts of the head and neck. But the horn of the *Rhinoceros* protects the muzzle, the mouth, and the face; for which reason, the tiger will rather attack the elephant, whose trunk it lays hold of, than the *Rhinoceros*, which it dares not face without running the risk of having it's bowels torn out. The body and limbs of the *Rhinoceros* are covered with a blackish skin, so impenetrable, as to resist either the claws of the lion or the tiger, the sword, or the shot of the hunter. It is also thicker and harder than that of the elephant, and altogether insensible to the stings of insects. It is incapable of either extension or contraction; but is rolled up into large folds at the neck, the shoulders, and

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the crupper, in order to facilitate the motion of it's head and limbs; which last are massy, and furnished with large feet, armed with three great toes. The head is proportionably longer than that of the elephant; but it's eyes are smaller, and generally half closed. The upper, which projects over the under lip, being moveable, can be extended about six or seven inches in length; and is terminated by a pointed appendage, which gives the animal a power of collecting herbage in handfuls, as the elephant does with it's trunk: this muscular and flexible lip is a kind of hand or imperfect trunk; but it enables the creature to seize any object with force, and also to feel with some address. Instead of those large ivory tusks which constitute the armour of the elephant, the *Rhinoceros* has a formidable horn; and two strong incisive teeth in each jaw, which are situated at a great distance from each other, one in each angle of the jaw. The under jaw is square before; and there are no other incisive teeth in the anterior part of the mouth, which is covered by the lips: but, exclusive of the four cutting-teeth in the four corners of the mouth, there are twenty-four grinders, six on each side of the two jaws. The ears, which are always kept in an erect posture, resemble those of the hog, but are proportionably smaller: those are the only parts of the body on which there are hairs, or rather bristles; but the extremity of the tail, like that of the elephant, is garnished with a bush of large, solid, hard bristles.

Though the *Rhinoceros* was frequently exhibited in the Roman spectacles, from the days of Pompey to those of Heliogabalus; though it has often been transported into Europe in more modern times; and though Bontius, Chardin, and Kolben, have drawn figures of it both in India and Africa; yet so badly has it been represented and described, that it was very imperfectly known till the errors and caprices of those who had published figures of it were detected by an inspection of the animals which arrived in London in the years 1739 and 1741.

In 1743, the ingenious Dr. Parsons published a history of the *Rhinoceros*; and from a subject so curious, and handled with such accuracy, an extract can neither prove useless nor unentertaining.

The *Rhinoceros* which the above gentleman described was brought from Bengal. Though not more than two years old, the expence of his food and journey amounted to near one thousand pounds sterling. He was fed with rice, sugar, and hay. He had daily seven pounds of rice, mixed with three pounds of sugar, and divided into three portions: he had likewise hay and green herbs, which last he preferred to hay; and his drink was water, of which he took large quantities at a time. He was of a peaceable disposition, and allowed all parts of his body to be touched. When hungry, or struck by any person, he became mischievous, and in both cases nothing appeased him but food. When enraged, he sprung forward, and nimbly raised himself to a great height, pushing at the same time his head furiously against the walls, which he performed with amazing quickness, notwithstanding his heavy aspect, and unwieldy mass. 'I often observed,' says Dr. Parsons, 'these movements produced by rage or impatience, especially in the mornings before his rice and sugar were brought him. The vivacity and promptitude of his motions,'



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tions,' adds this author, 'induced me to think, that he was altogether unconquerable, and that he could easily overtake any man who should offend him.

'This Rhinoceros, at the age of two years, was not taller than a young cow that has never produced; but his body was very long and very thick. His head was disproportionably large. From the ears to the horn there was a concavity, the two extremities of which, namely, the upper end of the muzzle, and the upper part near the ears, were considerably raised. The horn, which was not yet above an inch high, was black, smooth at the top, but full of wrinkles directed backwards at the base. The nostrils were situated very low, being not above an inch distant from the opening of the mouth. The under lip was pretty similar to that of an ox; but the upper lip had a greater resemblance to that of the horse, with this advantageous difference, that the Rhinoceros can lengthen his, move it from side to side, roll it about a staff, and seize with it any object he wishes to carry to his mouth. The tongue of this young Rhinoceros was soft, like that of a calf; his eyes were without any vivacity, in figure resembling those of a hog, and were situated lower or nearer the nostrils than in any other quadruped. His ears were large, thin at the extremities, and contracted at their origin by a kind of annular rugosity. The neck was very short, and surrounded with two thick folds of skin. The shoulders were very thick; and at their juncture there was another fold of skin, which descended on the fore-legs. The body of this young Rhinoceros was very thick, and pretty much resembled that of a cow near the end of her gestation. Between the body and the crupper there was another fold, which descended on the hind legs; and, lastly, another fold transversely surrounded the lower part of the crupper, at some distance from the tail. The belly was large, and hung near the ground, particularly its middle part. The legs were round, thick, and strong; and their joint bended backwards: this joint, which, when the animal lay down, was covered with a remarkable fold of the skin, became apparent when he stood. The tail, that was thin, and proportionably short, grew a little thicker at the extremity, which was garnished with some short, thick, hard hairs. The form of the penis was very extraordinary: it was contained in a prepuce or sheath, like that of the horse; and the first thing that appeared at the time of erection, was a second prepuce, of a flesh colour, from which issued a hollow tube, in the form of a funnel cut and bordered somewhat like a flower de luce, and constituted the glans and extremity of the penis. This anomalous glans was of a fine flesh colour, much paler than the second prepuce. During the most vigorous erection, the penis extended not above eight inches out of the body: the direction of this organ was not straight, but bended backward; hence he threw out his urine behind; and from this circumstance it may be inferred, that the male covers not the female, but that they unite with their cruppers towards each other. The organs of the female are situated like those of the cow; and she exactly resembles the male in figure and grossness of body. The skin is so thick and impenetrable, that when a man lays hold of any of the folds, he would imagine he is touching a wooden plank of half an inch thick. Dr. Grew remarks that, when tan-

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ned, it is excessively hard, and thicker than the hide of any other terrestrial animal. It is every where covered more or less with incrustations, in the form of galls or tuberosities, which are pretty small on the top of the neck and back, but become larger on the sides: the largest are on the shoulders and crupper; and are still pretty large on the thighs and legs, where they are spread all round, and even on the feet; but, between the folds the skin is penetrable, delicate, and as soft as silk to the touch, while the external part of the fold is equally hard with the rest. This tender skin between the folds is of a light flesh-colour; and the skin of the belly is nearly of the same colour and consistence. The galls or tuberosities on the skin should not be compared to scales: they are simple indurations only, without any regularity in their figure, or symmetry in their respective positions. The flexibility of the skin in the folds enables the Rhinoceros to move his head, neck, and members, with facility. The whole body, except at the joints, is inflexible, and resembles a coat of mail.'

Dr. Parsons farther remarked, that this animal listened with a deep and long-continued attention to any kind of noise; and that though he was sleeping, eating, or obeying any other pressing demands of nature, he raised his head, and listened till the noise ceased.

The horn of the Rhinoceros sometimes measures nearly four feet in length, by six or seven inches diameter at the base. It is commonly of a brown or olive colour; though there are instances of its being grey, and even white. Under the base it has a slight concavity in the shape of a cup, by which it is fixed to the skin of the nose: with this weapon the Rhinoceros is said to attack, and sometimes mortally wound, the largest elephants, whose tall legs give the animal now under consideration an opportunity of striking with his snout and horn their bellies, where the skin is most tender and penetrable; but, if he misses his first blow, the elephant throws him on the ground, and kills him.

This animal's horn is more esteemed by the Indians than the ivory of the elephant; not on account of its real utility, though several toys are made of it; but on account of certain medicinal qualities which they ascribe to it. The white horns, being the rarest, are in great request; and among the presents sent by the King of Siam to Lewis XIV. of France, in 1686, there were six horns of this animal.

Without being ferocious or carnivorous, the Rhinoceros is perfectly untractable. He is nearly among large what the hog is among small animals, rash and brutal, without intelligence, sentiment, or docility. He seems even to be subject to paroxysms of fury which nothing can appease; for that one which Emanuel King of Portugal sent to the Pope in 1513, destroyed the vessel in which he was transporting; and a Rhinoceros exhibited some years ago in Paris, was drowned in a similar manner in his voyage to Italy.

This animal is fond of wallowing in the mire; shews the greatest predilection for moist, marshy grounds; and never quits the banks of rivers. It is found in the continents of Asia and Africa; but in general the species is not numerous, and much less diffused than that of the elephant. The female produces but one at a time, and at considerable intervals. During the first month, the young



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young Rhinoceros does not exceed the size of a large dog. When recently brought forth, it has no horn, though the rudiments of it appear in the foetus. At the age of two years, the horn is about one inch long; and, at that of six, it is from nine to ten inches in length. Now, as some of these horns are known to be nearly four feet in length, it appears that they continue to grow during the half, or perhaps the whole of the animal's life; which must be of considerable extent, since the Rhinoceros described by Dr. Parsons had only acquired about one half of it's height at the age of two years; from whence it may be inferred, that this animal, like man, lives seventy or eighty years.

Destitute of those beneficial qualities possessed by the elephant, the Rhinoceros is equally hurtful by his voracity, and particularly by the prodigious waste occasioned by him in cultivated fields. In a word, he is useless while alive; though his flesh is reckoned excellent by the Indians and negroes; and his skin composes the hardest and best leather in the world. Not only his horn, but all other parts of his body, and even his blood, urine, and excrements, are esteemed antidotes against poison, or remedies for particular diseases: these antidotes or remedies, extracted from different parts of the Rhinoceros, are of equal estimation in the Indian pharmacopœia with the theriaca in that of Europe; but most of the virtues ascribed to both are probably only imaginary.

The Rhinoceros subsists on the grossest herbs, which he prefers to the softest pasture of the most luxuriant meads. He is fond of the sugar-cane; and likewise eats all kinds of grain. Having no appetite for flesh, he neither disturbs the small, nor dreads the larger animals; but lives amicably with all, not excepting the tiger, which sometimes attends the Rhinoceros without daring to attack him. This pacific disposition renders combats between the elephant and the Rhinoceros very suspicious; such contests must at least be seldom, since there is no offensive disposition on either side. Pliny seems to be the first author who makes mention of these conflicts. It appears that these animals were compelled to fight at the Roman spectacles; and hence probably the idea that, when in a state of nature, they fight in the same manner: but every action without a motive is unnatural; it is an effect without a cause, which must originate solely from accident.

These creatures neither assemble, nor march in troops, like elephants: they are more solitary and savage; and it is perhaps more difficult to hunt and overcome them. They never attack men but when provoked; and then they become very furious and formidable. Pennant mentions a Shropshire gentleman, whose belly was ripped open by the horn of one of these animals while engaged in a military capacity in the East, and who was so fortunate as to survive the wound. Their skins are so amazingly hard, as to resist sabres, lances, javelins, and even musket-balls. The only penetrable parts of their bodies are their bellies, their eyes, about their ears, and under the folds: hence the hunters, instead of attacking them face to face, follow them at a distance by the tracks of their feet, and watch them till they lie down to sleep.

Buhon tells us, that there is a foetus of a Rhinoceros in the Royal Cabinet, which was extracted from the body of the mother in the island

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of Java. By the memoir accompanying this foetus we are informed, that twenty-eight hunters having assembled in order to attack the dam, they followed her at a distance for some days, detaching one or two of their number from time to time to reconnoitre her situation: that by this means they surprized her while asleep; and silently approached so near, that the whole twenty-eight muskets were discharged at once into the lower part of her belly.

In some parts of the continent of Asia, where the natives are more ambitious of appearing warlike than proving themselves brave, these animals are tamed, and led into the field in order to strike terror into the enemy; but they are always unmanageable and restive, and probably more dangerous to their owners than to those whom they are designed to annoy.

If we may credit some naturalists, the Rhinoceros is the unicorn of Holy Writ, and of the ancients, the oryx and the Indian ass of Aristotle, who says it has but one horn. He might indeed fitly compare the clumsy shape of the Rhinoceros to that of the ass, so as to be easily induced to pronounce it a whole-footed animal. However, though this opinion is not universally adopted, it seems very probable that the Unicorn of Scripture possessed all the properties which belong to the Rhinoceros.

**RHINOCEROS, TWO-HORNED;** the Rhinoceros Bicornis of Linnæus. This species has two horns, one placed beyond the other; the nose and upper lip resemble those of the common Rhinoceros; it has no fore-teeth; and the skin, which is much granulated or warty, is destitute of plicæ or folds. The general colour is a deep cinereous grey; but between the legs it is smooth and flesh-coloured: in other parts there are a few scattered stiff bristles, most numerous about the ears and the end of the tail; and the tail itself is no thicker than a man's thumb, convex above and below, and flattened on the sides.

These creatures are found only in Africa. Flacourt first observed them in the Bay of Saldagne, near the Cape of Good Hope; but their existence was questioned for some time, till Dr. Sparrman confirmed it's reality. This gentleman, with the laudable perseverance of a naturalist, watched the arrival of those and other animals at a muddy water at some distance north of the Cape, whither wild beasts resort to quench their thirst, and some to indulge in rolling in the mud: in that spot he shot two of these animals; one so very large, that the united strength of five men could not move it. The lesser he measured; and it's length was found to be eleven feet and a half; the girth twelve; and the height between six and seven.

This species, with respect to it's habits, seems to agree with the other: it's flesh, which is reckoned proper for food, tastes like coarse pork; cups are manufactured of it's horns; and whips of it's hide. It feeds on the boughs of trees; and also on succulent plants, particularly the stinking flupelia. During the day-time it continues in a state of rest; but in the evenings and mornings it wanders about in search of food, or of suitable places to roll in. It has no other voice but a kind of snorting, which was observed in females anxious for their young. It's sight is said to be very indifferent; but it possesses the faculties of hearing and smelling in an exquisite degree, the least noise or scent putting it in motion. To the spot whence



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these two senses are alarmed it instantly repairs; and whatever objects it meets with in its course, it usually overturns and tramples on: men, oxen, and even carriages, have been overthrown by it, and sometimes destroyed. However, it never returns to repeat the charge, but keeps right on its way; so that a kind of senseless impulse, rather than vehement fury, seems to precipitate the Rhinoceros in these its violent actions.

Martial mentions this species under the appellation of *Rhinoceros cornu gemino*, and relates its manner of combating the bear. Indeed, the Romans procured their Rhinoceros's from Africa only, which was the reason of their being represented as double-horned. The animal figured in the Prenestine Pavement, and that on one of Domitian's coins, are each furnished with two horns.

**RHINOCEROS** is also a name by which some naturalists express a species of beetle, so called from a kind of horn projecting from its head.

**RHINOCEROS AVIS.** A term by which some ornithologists express a species of Indian raven, called also *corvus Indicus cornutus*; in the Linnæan system, belonging to the genus of *buceros*.

This bird, which is extremely ugly and ill-scented, much exceeds the European raven in magnitude: the head and neck are very thick; the eyes are extremely large; and the beak is of a very singular figure, having a large thick horn-like protuberance on its upper part: the whole beak is bent like a bow; and is of a yellowish white colour below; but on the upper part, towards the head, is of a beautiful vivid red. The upper chap is serrated; and with this the horn proceeds from the head, and running along the mandible, bends up at its extremity.

This species delights in the same sort of food with the common raven.

**RHODOPUS GALLINULA.** An appellation sometimes given to the *tringa*.

**RHOMBO.** A name for a peculiar fish of the rhombus or turbot kind, the *Rhombus Aculeatus* of Aldrovandus and others. It grows to a considerable size. The back is ash-coloured and green; and the belly is white. It is destitute of scales; but the skin of the back is divided by lines. The mouth is large, and well furnished with teeth; and the palate contains a number of tubercles.

The Rhombo is commonly found in the Italian seas; and its flesh is very delicious.

**RHOMBUS.** A species of the *pleuronectes*.

**RHOMBUS** is also a term used by conchologists to express a genus of the *murex*; the character of which is, that the shape or contour is rhombic. The clavicle, or turban, which is generally situated about the middle, runs out into very sharp or acute angles with the top and bottom; and by this means gives a rhomboidal figure to the shell.

This genus is not very numerous, but contains some very pretty shells.

**RICE-BIRD;** the *Loxia Oryzivora* of Linnæus. This bird, which was first described by Edwards, is about the size of a green-finch: the bill is extremely thick, and of a fine red colour above and beneath, except towards the point, where there is a little space of white. The eyes are dark; and the irides are red. The whole head is black, except a white oval spot on each cheek; the neck, breast, back, and coverts of the wings, are of a fine blueish ash-colour, the rump being somewhat lighter than the back; while the

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ash-colour on the breast changes gradually towards the belly into a blossom-colour; beyond which the lower belly and the coverts under the tail are of a dirty white. The greater quill-feathers, as well as the whole tail, are black; the legs and feet are of a faint red hue; and the claws are of a dirty white.

The plumage of this bird is remarkably smooth and even; from which circumstance it derives a peculiar beauty. It is said to be a native of China.

**RING-DOVE.** See **DOVE**.

**RING-OUZEL.** See **OUZEL**.

**RING-TAIL.** An English appellation for the *subbuteo*, or *pygargus accipiter*; which has generally been deemed the female of the hen-harrier: however, males have been lately found of this species.

The Ring-Tail is distinguished by a chain of feathers round the back part of its head, reaching to the chin on each side; which stand erect, and are brown in the middle, and of a reddish white hue at the edges, forming a kind of crown, which surrounds the head. The top of the head and cheeks are dusky, bordered with ferruginous; and under each eye there is a white spot. The back is dusky; the rump is white, with oblong yellowish spots on each shaft; and the tail is long, and tipped with white. The breast and belly are of a yellowish brown colour, marked with oblong dusky spots; the legs are yellow; and the inside of the mouth is black.

This hawk preys on small birds; flies much higher than the hen-harrier; and sometimes perches on trees. Its eggs are of a reddish hue, with a very few clear white marks.

**RING-TAIL EAGLE.** See **WHITE-TAILED EAGLE**.

**RIONDO.** An appellation by which some ichthyologists express the fish more commonly called *aper*; a small one caught in the Mediterranean, resembling the *faber* or *dorée* in shape.

**RIVER-HORSE.** See **HIPPOPOTAMUS**.

**ROACH;** the *Cyprinus Rutilus* of Linnæus. This fish, called also *rutilus*, *rubiculus*, and *rubellio*, is a species of *cyprinus*, both according to the Artdian and Linnæan distributions. It has (though without just reason) been reputed extremely vivacious and active; whence the proverb, 'Sound as a Roach.'

In some parts of the world the Roach can exist in stagnant waters only: in this country, it thrives equally in ponds and deep still rivers; and is remarkable for its numerous progeny, a pond being much sooner stocked with this than any other fish. It is a gregarious creature, always keeping in large shoals. It is seldom seen of any considerable size; nevertheless, Walton makes mention of some that weighed two pounds each.

The Roach is deep, but thin; the back is much elevated, and sharply ridged; the scales are large and deciduous; and the lateral line is considerably incurvated in the middle towards the belly.

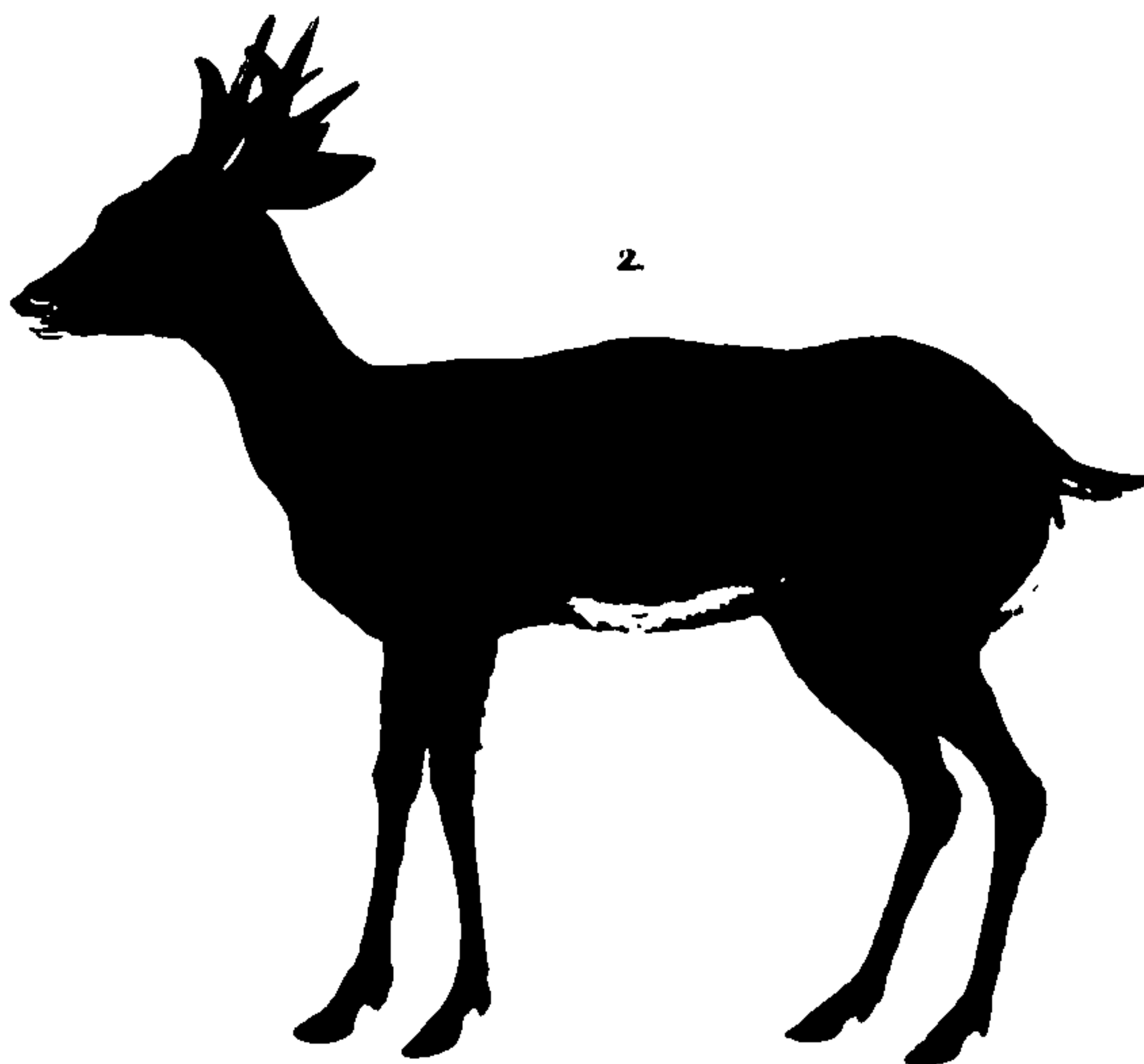
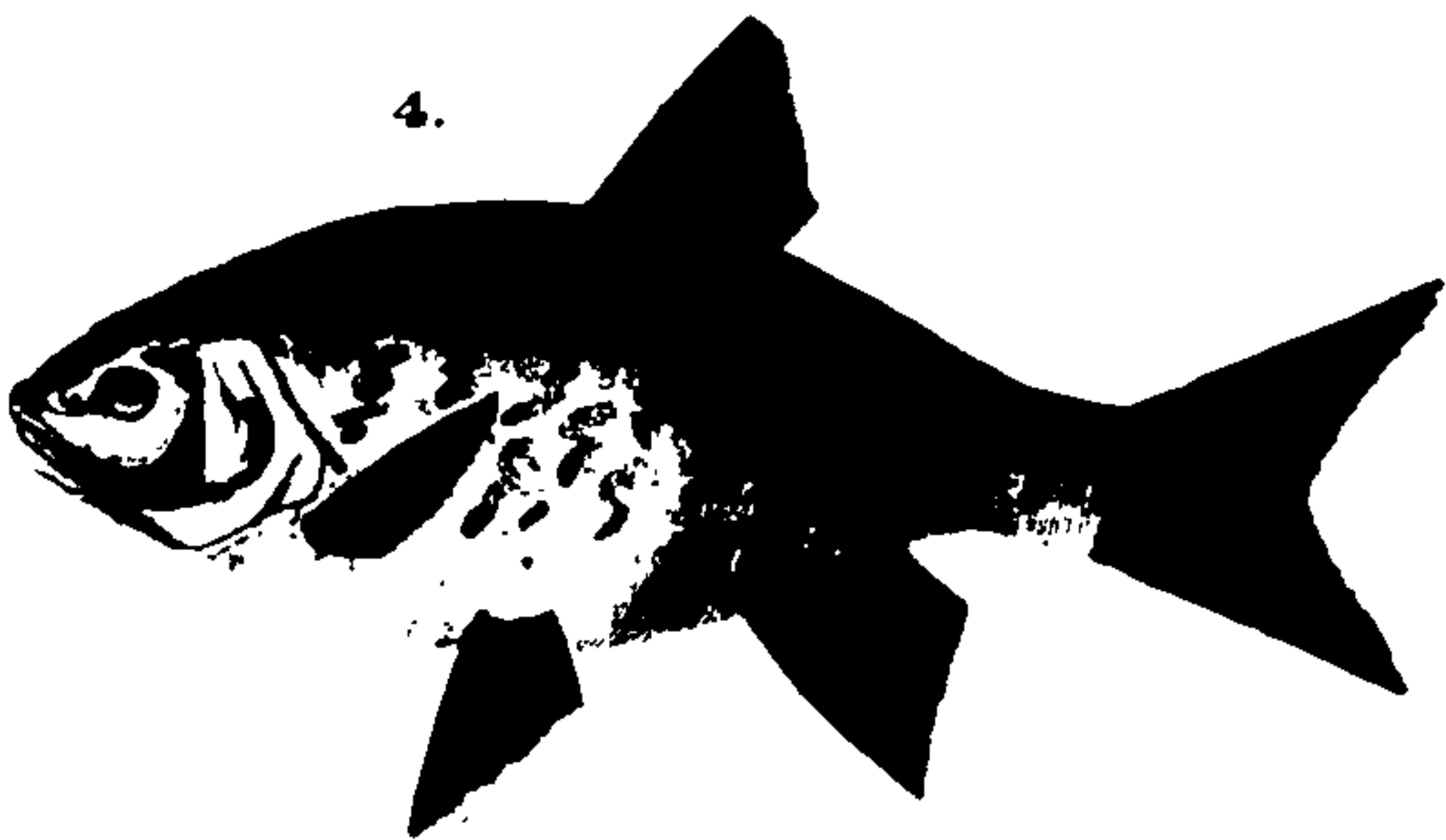
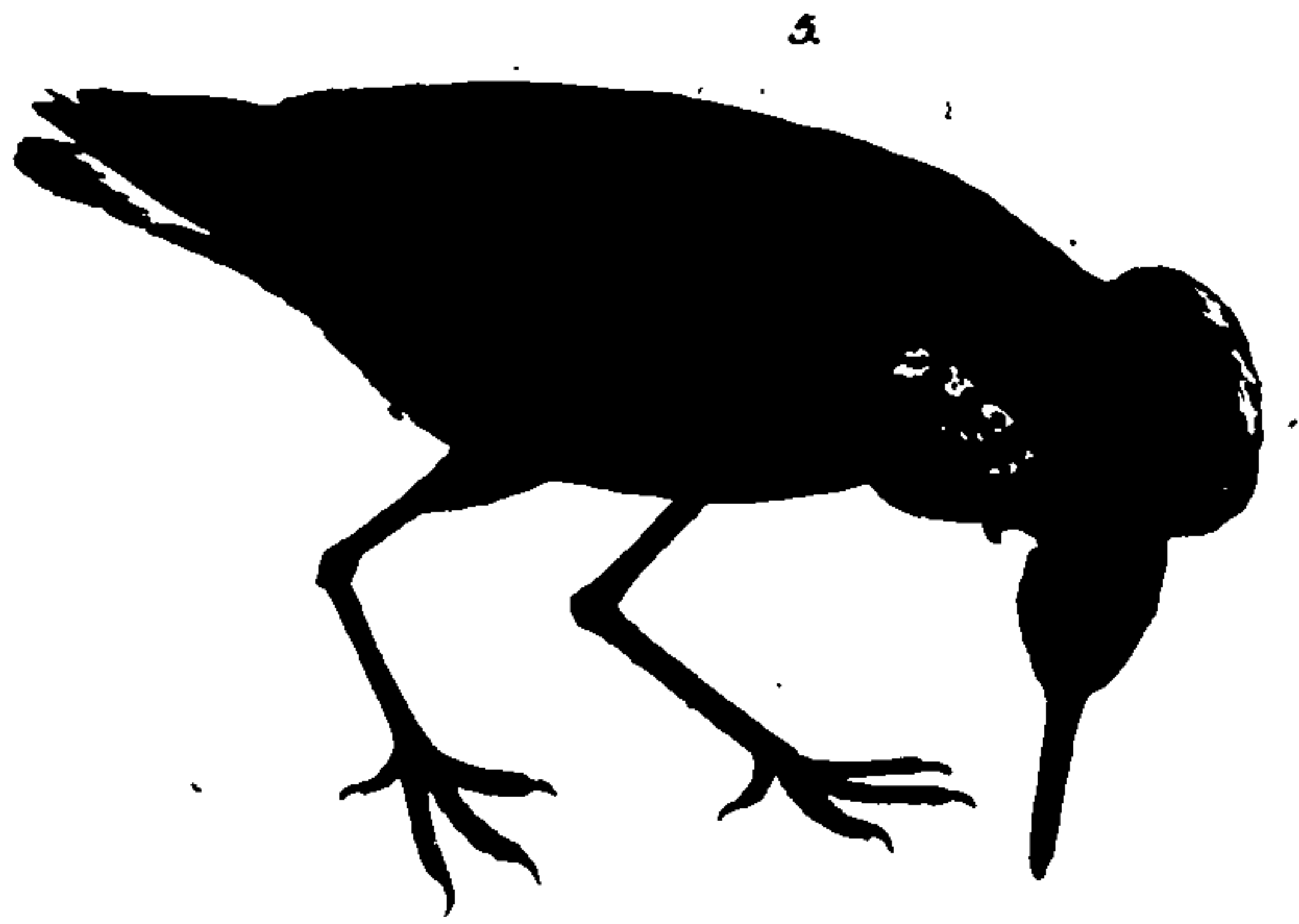
**ROAD GOOSE.** An appellation by which some authors express a small species of wild Goose.

**ROBIN.** The vulgar name for the red-breast, or *rubecula*. See **RED-BREAST**.

**ROCK.** A bird mentioned by the Arabian writers, of which many fabulous accounts have been propagated. But, if we may venture to form any opinion on a subject so mangled with fiction, it seems to be a species of *condor*.

**ROCK-FISH.** An English appellation for the





1. RICE BIRD. 2. ROE BUCK 3. ROLLER  
4. RUDD 3. RUFF.



## ROL

the *gobius marinus*, or sea-gudgeon. See **GOGET**.

**ROCK OUZEL.** See **RING OUZEL** and **AMZEL**.

**ROCKLING.** A provincial appellation for the three-bearded cod. See **COD**.

**ROE-BUCK.** An animal of the cervus kind, having ramose, cylindric, and erect horns. It is the smallest of the deer kind; and is well known in Germany and Scotland. Formerly it was pretty common in England; but the race is now extinct.

The Roe-Buck is called a Hind the first year; a Gryle the second; a Henuse the third; a Roe-Buck of the first head the fourth; and a fair Roe-Buck the fifth.

**ROLLER**; the *Coracias Garrula* of Linnæus. A bird of the magpye kind; called also *garrulus argentoratis*, and *cornix cærulea*. It is common in most parts of Europe, but is seldom seen in England. It equals the jay in size: the bill is black, straight, and hooked at the point; the base is beset with bristles; the space about the eyes is bare and naked; and behind each ear there is also another bare spot or protuberance. The head, neck, breast, and belly, are of a light blueish green colour; the back, and feathers of the wings next to it, are of a reddish brown; the coverts on the ridges of the wings are of a rich blue; beneath them, of a pale green; the upper parts and tips of the quill-feathers are dusky; the lower parts are of a fine deep blue; and the rump is of the same colour. The tail consists of twelve feathers, of which the extreme ones on each side are considerably longer than the rest; the colour is a light blue tipped with black; the middle feathers are of a dull green; and the legs, which are short, are of a dirty yellow hue.

This bird is remarkable for its chattering noise; whence it has received the appellation of *garrulus*.

**ROLLER, INDIAN SWALLOW-TAILED**; the *Coracias Indica* of Linnæus. This very beautiful bird has a pretty straight black bill, with a few bristles or hairs at the basis of the upper mandible; the plumage which surrounds the root of the bill is white; the head, the fore-part of the neck, and the whole under side to the lower covert-feathers of the tail, are of a blueish sea-green colour; the hinder part of the neck, the upper half of the back, and some of the quills next the back, are of a reddish brown, slightly variegated with green on the neck and back; the lower half of the back, and the coverts on the upper side of the tail, are of an ultramarine blue, with transverse lines of a darker tinge; the two exterior feathers of the tail, which are five inches longer than the rest, are of a light sea-green colour, tipped with black; and the central feathers are of a darkish green. The lesser coverts of the wings are of a fine blue colour; those next above the quills are of a blueish sea-green; and the greater quills, for upwards of half their length towards the base, are of a fine blue colour, which gradually changes into a dusky towards the tips. The legs are short; and the toes are divided to their bottoms, and wholly covered with scales of a reddish flesh-colour.

**ROLLER** is also a name by which some ornithologists express the *ampelis*, or *garrulus Bohemicus*. It is about the size of a blackbird. The head is adorned with a little pointed plume of

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feathers, of a fine glossy brown colour; from the base of the bill, which is short, thick, and black, a black bar passes to the hind part of the head over each eye; the neck is variegated with black, brown, and white; and the throat is black, with a small bristly tuft in the middle. The breast is of a reddish brown colour; the belly is grey; the back is of a chesnut brown hue; and the wing-feathers are variegated with black and grey.

The distinguishing characteristics of this bird, in which it differs from all others, are the horny appendages from the tips of seven of the secondary feathers, resembling the finest red wax.

These birds are esteemed peculiar to Bohemia, being seldom found in any other country. However, they annually appear about Edinburgh in the month of February, where they feed on the berries of the mountain-ash. They were once regarded as predictive of pestilences. They are easily tamed; and their flesh is reckoned very delicious.

**ROOK.** A well known bird of the crow kind; the *Corvus Frugilegus* of Linnæus.

With respect to shape, the Rook differs little from the carrion crow, but is somewhat larger: the colours in each are the same, the plumage of both being glossed with a rich purple. The principal distinction between the two species is found in the bill of the Rook, which, by being frequently thrust into the ground in search of grubs and earth-worms, is bare of feathers as far as the eyes, and appears of a whitish colour: this discrimination is the more necessary to be pointed out, as the Rook has but too frequently suffered on account of its similitude to the crow; and thus a harmless bird, that has no carnivorous appetites, and feeds only on corn and insects, has been destroyed for another that feeds on carrion, and frequently makes great havock amongst young poultry. The Rook, instead of being proscribed, should be treated as the farmer's friend, as it destroys caterpillars, which would otherwise do incredible damage, by consuming the roots of the corn.

Rooks are sociable birds, assembling in vast flocks. They generally build their nests in woods and forests; but sometimes make choice of groves situated in the centre of large towns or cities, for their retreats and places of security: and not many years ago these birds formed a kind of colony among the lofty trees in the Middle Temple, London, where they passed as inoffensive a life as the other inhabitants of the same place of the black robe. In these aerial abodes, they establish a kind of legal constitution; and exclude all intruders, none being suffered to build among them but acknowledged natives of the place.

At the commencement of spring the Rooks begin to build their nests; and one of them brings materials, while the other watches the building, lest it should be plundered by its brethren. All the old inhabitants, however, are already provided with nests; those which served them in former years requiring only a little trimming and dressing to render them equally commodious with new habitations. The young Rooks indeed are unprovided with nests, and obliged to build them to the best of their abilities. On this occasion the male and female pass several days in attentively examining each tree of the grove, before they fix on a branch suitable to their purpose. The situation being pitched on, they begin to collect ma-



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terials for their nest; the outside consisting chiefly of sticks, and the inside usually lined with fibrous roots; the whole regularly and substantially disposed. Sometimes, however, the young couple give offence in making choice of a spot too near the mansion of an older pair; a quarrel consequently ensues, and the old ones generally prove victorious.

The young couple, thus expelled, deliberate and examine as before; and having now taken care to keep their due distance, they again begin to build, and in three or four days usually complete their nest. Though they have frequent skirmishes, all hostilities cease whenever the female begins to lay; and not one of the whole grove, that treated her roughly but a little before, now attempts to molest her.

Though native Rooks are sometimes severely handled by each other, yet if a foreign one should attempt to make himself a denizen of their society, he would meet with no mercy; the whole grove would immediately set themselves against, and drive him from the premises.

In some countries, Rooks are considered as a blessing; in others, as a nuisance: but they are generally supposed to be as serviceable in destroying noxious insects, as they can possibly be injurious in consuming the labours of industry. The female lays the same number of eggs with the crow: their colours are alike; but those of the former are smallest.

**ROQUET.** A small species of West Indian lizard, of a reddish brown colour, variegated with black and yellow spots. It's fore-legs are remarkably long for a creature of this kind; it's eyes are peculiarly vivid and sparkling; and it's head is always carried erect. It is almost incessantly in motion, hopping about like a bird; and usually carries it's tail bent into a semicircle over it's back. It is neither shy nor timorous; seems fond of human society; and, when tired, opens it's mouth and pants, lolling out it's tongue like a dog.

**ROSE-FLY.** A peculiar species of fly produced from a bastard caterpillar frequently found on rose-bushes; from which circumstance it receives it's name.

The male of this fly has a long body; and the female, which has a short and thick one, deposits her eggs in small holes, which she forms in the bark of the young branches by means of a remarkable instrument placed at the hinder part of her body.

The Rose-Fly is furnished with four wings; and is so extremely common during the summer months, that it may be traced on almost every shrub. It's head and breast are black; it's wings are also edged with black; and it's body and legs are yellow, except that the latter are marked with a few black spots.

If an observer notice these flies in the morning, as they crawl on the branches of the Rose-tree, he will find them employed in depositing their eggs. The manner in which they perform this work is very perceptible; for being naturally of a sluggish disposition, they will suffer themselves to be caught; and when one of them is in a proper situation, it may be examined by bringing the eye near it, and using the common magnifying glass, without interrupting it's operations.

Besides this species, there is another fly of the same genus, produced from a bastard caterpillar

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of the Rose-tree; and of the same shape and structure with this, but differing in colour. The head and breast are of a deep violet colour; the body is yellow; and the legs and wings have a violet tinge. This creature also deposits it's eggs in holes formed in the branches of the Rose-tree by means of a double saw at the extremity of the body: but whereas the former species lays them in a single straight line, this disposes them very regularly in two rows.

**ROSE-GALLS.** An appellation given by naturalists to certain excrescences on the *rosa sylvestris*, or dog-rose, occasioned by the bites of insects. They are of two kinds, one hard, and of a woody substance; the other spongy and hairy.

The common or hairy Rose-Gall exhibits too singular an appearance to have escaped the observation of mankind in any age. In many parts of the world it has been introduced into medicine; and is at this time prescribed in Germany, when pulverized, for diarrhoeas, dysenteries, and other disorders of the bowels; to promote urine, and dissolve the stone. These Rose-Galls, though they appear at first sight to be composed of tufts of hair, are in reality made up of several small Galls, proceeding from a bud on the branch, and forming a cluster on the part: they are oblong, resembling the shape of a plumb-stone; and each is the habitation of a single worm, whose cell is in the centre.

All the Rose-tree Galls afford the same species of worms and flies: the proper inhabitants, however, can scarcely be distinguished by the most curious observer, from the great variety of species which are found in them, all produced from the eggs of other flies of the carnivorous kind lodged in the Gall, not to feed on the juices of the tree, but on the flesh of the original inhabitant. When the parent fly, from which the Galls originate, has deposited her eggs, and in consequence of this operation the tumour begins to be formed, an enemy of the ichneumon kind pierces the covering, and introduces her offspring to feed on the native insect.

**ROSMARUS.** An appellation by which some naturalists express the sea-horse, more usually denominated the morse. See MORSE.

**ROSOMACHIA, or ROSOMAK.** A Russian appellation for the glutton. See GLUTTON.

**ROSPUS.** A name by which some naturalists express that singular creature called also the rana piscatrix or frog-fish. See ANGLER and SLAY-DEVIL.

**ROSSE.** A term by which Bellonius expresses that species of cyprinus called in English the roach.

**ROSTRATA.** A name given by some ornithologists to the toucan. See TOUCAN.

**ROTCHET.** The English appellation for the euculus of ichthyologists, more usually denominated the red guinard.

**ROTFL.** A name by which some naturalists express the *rutilus latior*, or *rubellio fluviatilis*; called also the rudd, or fintale; a fresh-water fish having red ventral fins, and a tail of the same colour.

**ROTTHALS.** A term whereby Gesser and some other naturalists express the pochard, or red-headed widgeon, a bird distinguished from all others of the duck kind by being destitute of the variegations in it's wings. See POCHARD.

**ROTHEINLIN.**



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**ROTHBEINLEN.** See **RED-SHANK.**

**ROTKNUSSEL.** A German appellation for the *Gallinula Melampus* of Gesner, approaching to the nature of the snipe kind. It's back is brown, with a slight admixture of reddish, and some spots of a dusky colour; it's wings are variegated with black and white; and it's beak and legs are black. This bird is common in many parts of the German empire.

**ROTSCHWENTZEL.** The German name for a bird apparently the same with the *ruticilla* or red-start.

**ROTSIMPA.** A Swedish term for a species of cottus, called also *scorpius marinus*. Artedi distinguishes it under the name of the smooth cottus, with many thorns on the head, and with the upper jaw somewhat longer than the under.

**ROTULA.** A genus of echini marini of the general class of the placenta. The characters of the *Rotulae* are; that they are flat shells, composed of various pieces, and formed into a circular figure, somewhat like that of a wheel; but wanting one or more parts of it's outer ring, and radiated or dentated. The mouth is situated in the middle of the base; and the aperture of the anus in the third region of the axis, marked with a cinquefoil flower at the summit: however, the great and obvious character is the dentated edge. There are two known species of this genus.

**ROTULA** is also an appellation given by some authors to the *faber* or *dorée*.

**ROUGET.** A name by which some French ichthyologists express the *lyra* and *capo* of authors. It is a species of the *trigla*; and distinguished by Artedi under the name of the *trigla* with the long bifid snout and tubulous nostrils.

**ROUND-FISH.** An East Indian fish, rather imperfectly described, but said to resemble the whiting, except that it has a small head and tail; and a prominent belly, with two fins on the lower part of it, like those of an eel. The flesh is much admired.

**RUBELLIO.** An appellation by which some ichthyologists have expressed a small sea-fish of a red colour, caught in the Mediterranean, and more usually stiled the *erythrinus*.

**RUBELLUS.** A name given by some authors to the common roach, and by others to the *rud* or *fin-scale*.

**RUBETA.** A classical appellation for the toad. See **TOAD.**

**RUBETRA.** A name by which Gesner and some other ornithologists express that species of the *cenanthe* commonly denominated the stone-chatter, or moor-titling.

**RUBICILLA AMERICANA.** A Brazilian bird, called in that country *guiratrira*. It belongs to the bull-finch kind; and is very beautifully variegated with red, black, and grey.

**RUBICULUS.** A name given by some ichthyologists to the roach. It belongs to the genus of *cyprinus*; and is distinguished by Artedi under the name of the red-eyed *cyprinus*, with the tail and ventral fins red.

**RUBUS.** An appellation by which some naturalists express the skate or flaire, a species of ray.

**RUDD,** the *Cyprinus Erythrophthalmus* of Linnæus. The body of this fish is extremely deep, like that of the bream, but much thicker; the head is small; the irides are yellow, varying almost to red; the back is extremely arched, sloping off sud-

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denly to the head and tail; the scales are very large; and the lateral line is slightly incurved. The dorsal fin consists of eleven rays: the first is very short; the second very strong, and serrated on each side. The pectoral fins consist of seventeen rays; the ventral of nine; and the anal of thirteen. The back is olivaceous; the sides and belly are yellow, with some marks of red; the ventral and anal fins, together with the tail, are generally of a deep red hue; and the tail is bifid.

This fish, which spawns in April, is found in the Cherwell, near Oxford; in the Witham, in Lincolnshire; and in the fens of Holderness. Plot, in his Natural History of Oxfordshire, gives it the appellation of *Fin-scale*. It is also denominated the red-eye.

**RUDDOCK.** An English appellation for the *rubecula*; more commonly called the red-breast, or robin red-breast.

**RUFFE;** the *Perca Cernua* of Linnæus. Artedi distinguishes this fish from others of the same genus by the name of the perch with only one dorsal fin; and a cavernous head, with small teeth disposed in rows. The dorsal fin extends along the greatest part of the back; it's first rays are strong, sharp, and spiny; but the others are soft. The pectoral fins consist of fifteen rays; the central of six; and the anal of eight. The tail is slightly bifurcated; and the body is covered with rough scales. The back and sides are of a dirty green colour, the last inclining to yellow, and both spotted with black; the dorsal fin is also spotted with black; and the tail is marked with transverse bars.

These fish are bred in several of our English streams; and being gregarious, they assemble in large shoals, in the deepest places.

The Ruffe may be kept a considerable time in a glass jar, the water being often changed; where it will become very tame and familiar: however, it must be supplied with more food than the animalcules in the water can furnish, otherwise it will soon languish and die. No fish is more vivacious; for it will live twenty or thirty minutes separate from the water, without sustaining any sensible injury.

**RUFFE, BLACK.** Jago has left a short description of this creature under the appellation of the black fish. It agrees with the Ruffe in the form of the body, the smallness of the teeth, and in having a single extensive fin on the back and a forked tail. It is smooth, with very small thin scales; fifteen inches long, and three quarters of an inch broad. The head and nose resemble those of a trout; and it has a little mouth, with a large double nostril.

Two fish of this kind were taken at Loo, in the year 1721, in the Sean, by means of small ore-weed.

**RUFFE;** the *Tringa Pugnax* of Linnæus. A small bird, the female of which is called the reeve.

The Ruffe has feathers of various colours; but it is principally distinguished by a very remarkable circle of long feathers surrounding the neck, whence it receives it's name. On the back of the neck there is a tuft of feathers, spreading wide on both sides: in some birds, these feathers round the neck are black; in others, white, yellow, or ferruginous; and even in the same bird they frequently differ in colour. The coverts of the wings are brown or ash-coloured; the feathers on



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the breast are black or dusky; the four exterior ones of the tail are of a cinereous brown; and the four middle ones are barred with black and brown. The bill is black towards the end, and red at the base; and the legs are yellow.

This bird, in moulting, loses the neck-feathers; nor do they return again till the ensuing spring, when a set of small pear-shaped yellow pimples break out on the face above the bill. The male birds of the first year want these marks; and the more they advance in age, the more numerous are the pimples, and the fuller and longer the tufts. The length of the male, from the bill to the tip of the tail, is twelve inches; and the greatest expansion of the wings is twenty-four. The Reeve is about ten inches long, and nineteen broad: the former weighs seven ounces and a half; but the latter only four.

The Reeve never changes it's colour, which is brown: the back is spotted with black, slightly edged with white; the tail is brown, the middle feathers being spotted with black; the breast and belly are white; and the legs are of a pale dull yellow hue.

These birds, which are migratory, arrive in this country early in the spring, and disappear about Michaelmas. They build in some parts of Lincolnshire, particularly near Croyland; and are also found in the Isle of Ely, in the East Riding of Yorkshire, and for a short time annually near Martin-Mere in Lancashire. They lay four white eggs, marked with large rusty spots, in a tuft of grass, during the first week in May; and sit about a month. Soon after their arrival, the males begin to hill, as it is termed; that is, to assemble on some dry bank, near a pool of water, in expectation of the females, which resort to them. Each male keeps possession of a small piece of ground, which he perambulates till the grass is quite worn away, and nothing but a naked circle is left; and, as soon as a female alights, the Ruffes begin an engagement. When a fowler discovers one of those hills, he places his net at night; and at day-break resorting to his stand, takes those birds which are within his reach at the first pull: he then fixes his stales, or stuffed birds, in order to entice those which are traversing the fen; and after this manner he sometimes catches forty or fifty dozen in one season.

When these birds first arrive, the males are considerably the most numerous; but, by reason of their continual combats, the number soon sinks beneath an equality. After being taken, they are fed with bread and milk, hemp-seed, and boiled wheat; to which, if expedition is requisite, sugar is added, which soon renders them amazingly fat. They are killed by cutting off their heads with a pair of scissars; and, considering their size, are extremely replete with blood. They are dressed with their intestines, after the fashion of woodcocks; and when killed at the proper season, are reckoned the most delicious treat of modern epicures.

**RUMINANT.** A term used to express such animals as chew the cud; of which kind are oxen, sheep, deer, goats, camels, hares, and squirrels.

Ruminants, says Ray, are all quadrupedal, hairy, and viviparous: some have hollow and perpetual horns; others deciduous ones. The horned Ruminants have all four stomachs, appropriated to that office; they want the dentes pri-

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mores, or broad teeth, in the upper jaw; and they afford that hard kind of fat, called suet, which in them is firmer and less liquifiable than that of other animals.

**RUNT.** An appellation by which ornithologists express a species of pigeon; of which there are several varieties, particularly the Leghorn, Spanish, and Friesland Runts. The Columba Domestica Pisarum, Hispaniæ, et Frisiæ, of Moore.

The Leghorn Runt is a fine large pigeon, close-feathered, and flat-fleshed; extremely broad-breasted, and very short in the back. It carries it's tail in walking somewhat like a duck; it's neck is considerably longer than that of any other pigeon, and arched like the neck of a goose; it's head resembles that of a swan; it's beak is very short, and wattled; and the upper chap falls a little over. This is a very valuable species; but it's great delicacy renders care necessary to it's preservation.

The Spanish Runt has the longest body of any pigeon: it is short-legged, and loose-feathered; and it's colours are extremely various.

The Friesland Runt is a large bird; and has all it's feathers reverted, appearing as if placed the contrary way.

**RUNT** is also a name by which some authors express a Canary bird of the age of three years.

**RUNT** is likewise an appellation for the small black cattle brought from Scotland and Wales.

**RUPICAPRA.** A species of goat: called also the chamois. See **GOAT**, **CHAMOIS**.

**RUSTICULA.** A name by which some ornithologists express the godwit; called also the ægocephalus.

**RUTICILLA.** A species of the muscicapa, or fly-catcher, in the Linnæan system. This bird is a native of America: it's body is wholly black, except the breast, the base of the primary and secondary wing-feathers, and those of the tail, which are yellow. There is likewise a yellow spot on the wings.

**RUTICILLA** is also a classical term for the red-start.

**RUTILUS.** A classical appellation for the roach. See **ROACH**.

**RUTILUS LATIOR.** A name by which some ichthyologists express the fish denominated the rudd in English; the Rubellio Fluviatilis of Latinists in general.

**RYNCHOPS;** the Skimmer, or Cut-Water. A genus of anseres in the Linnæan system: the characters of which are; that the bill is straight; that the upper mandible is much shorter than the lower, and truncated at the extremity; that the nostrils are linear and pervious; that the tail is slightly forked; and that there is a small back toe.

Linnæus enumerates two species: one of which is blackish above, and white below, with it's bill red at the base; and the other is yellow, with a black bill; and by Brisson reckoned a variety of the former. Both these birds are natives of America.

The appellation Rynchops is derived from Rugchos, a Bill; and Koptein, To cut, because the upper mandible appears as if cut off.

Pennant gives this bird the name of Skimmer, from the manner of it's collecting it's food, with it's lower mandible, as it flies along the surface of the water.



## S.

**SABELLA.** A genus of the testaceous worms, of which Linnæus enumerates seven species. The enclosed animal is a nereis. The covering is tubular, and formed of sand and broken shells cohering by a glutinous cement.

**SABLE;** the *Mustella Ribellina* of Linnæus. This animal resembles the marten both in shape and size, and the weasel in the number of its teeth; the marten having thirty-eight teeth, and the weasel but thirty-four: therefore, in this respect, the Sable seems to form the shade between these two animals. It has long whiskers, rounded ears, large feet, white claws, and a long bushy tail.

The skin of the Sable is held in the highest estimation of any furs belonging to this tribe of animals: it is of a brownish black hue; and the darkest is the most valuable, a single skin being frequently sold for ten or fifteen pounds. But the fur to which fancy has given such a value is not always the same: some of these species are of a dark brown colour all over the body, except the ears and throat, where the hair is yellowish; and there are even instances of their being of a snowy whiteness.

Sables resemble the rest of the weasel kind in vivacity and agility; in sleeping by day, and hunting their prey by night; and in the disagreeable smell by which that race is chiefly characterized. They inhabit Siberia and Kamtschatka; and a few of them are found in Lapland. They usually live in holes of the earth, or beneath the roots of trees; and sometimes, like the marten, they form their nests in the boughs of trees, skipping from one branch to another with amazing agility. The females bring forth about the end of March or beginning of April; and produce from three to five at a time, which they suckle for a month or five weeks.

These animals are hunted in the winter for their skins, as they are then only in season. In Siberia, the hunting of the Sable used to fall to the lot of condemned criminals, who were banished from Russia into those dreary and inhospitable forests; and thus the luxuries and ornaments of the vain were obtained through the miseries of the wretched. These criminals were obliged to furnish a certain number of skins annually, or receive a punishment proportioned to the deficiency. Sables, however, are now more frequently killed by the Russian soldiers, who are sent into Siberia for that purpose: like these offenders, they are taxed in a certain number of skins annually, but, by way of encouragement, are permitted to share the surplus of the skins which they thus procure.

At present, the Sable hunters form themselves into troops, from five to forty each: the last subdivide into lesser parties, and each chuses a leader, but there is one person who directs the whole party. A small covered boat is prepared for each division, laden with provisions, a dog and a net, for every two men, and a vessel to bake their bread in. Each party is also provided with an in-

terpreter for every country into which they penetrate. They then set forward in whatever course their leader chuses to prescribe; proceed against the current of the rivers; and drag their boats along till they arrive in the hunting-country, where they build themselves huts, and wait till the frost sets in.

Before they begin the chase, their leader assembles them together; and, after preferring a prayer to the Almighty for success, they separate. The first animal they take is called God's Sable, and religiously dedicated to the Church. As they penetrate into the woods, they set marks on the trees, that they may the more easily find their way back. In their hunting-quarters, they form huts of trees, and bank up the snow round them: near these they lay their traps; and then advancing farther, they set more, still building new huts in every quarter, and returning successively to every old one, to visit the traps; from which they take the game in order to skin it, an office which none but their chief is suffered to perform.

In the mean time the hunters are supplied with provisions by persons employed to bring them on sledges from certain places on the road, where they are obliged to form magazines, because of the impracticability of carrying quantities through the rugged country they are forced to pass.

Their traps are a sort of pitfalls, with loose boards placed over them, baited with fish or flesh: but when Sables grow scarce, the hunters trace them to their holes through the new-fallen snow, place their nets at their entrances, and frequently watch two or three days for the appearance of the animals. And it has sometimes happened that these wretched people, through a failure of provisions, have been so severely pinched with hunger, that, to prevent the cravings of appetite, they have taken two of their boards, one of which they have applied to the pit of the stomach, and the other to the back, drawing them tight together by means of cords placed at their extremities. Such are the hardships experienced by the humble to gratify the wanton finery of the proud!

The hunting season being ended, the parties re-assemble; report to their leaders the number of Sables each has taken; prefer complaints of offenders against their regulations; punish delinquents; share the booty; and then continue at the head-quarters till the rivers are clear of ice, when they return home, and deliver up the votive furs to the Church.

The value of one of these skins has been already noticed; but they are of all prices, from one to ten or fifteen pounds. Fine and middling Sable-skins are sold without bellies, and the coarse ones with them. The very finest are vended in pairs, perfectly similar; and are more valued than single ones of the same quality. The blackest are reputed the best. They are in season from November to February; for those caught at any other period are short-haired. The more long hair any skin is possessed of, and the blacker it is, the more valuable is the fur. The best of all have



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none but long black hair. The gloss vanishes in old furs; and dyed Sables always lose their lustre; though the Chinese have a certain method of dying them, which not only affords a permanent colour, but preserves the gloss. White Sables being extremely rare, are therefore purchased only as curiosities; and some, which are yellowish, are bleached on the snow during the spring.

The common Sables are but little superior, in their colour and hair, to the marten. The American fur is more glossy than the Siberian, and of a bright chestnut colour; but of a coarse quality, and therefore little esteemed.

**SABLE, MOUSE.** See **MOUSE**.

**SACA.** An appellation by which some naturalists express a beautiful species of wild cat found in Madagascar.

**SACER.** A name by which Gaza, and some other ichthyologists, express that species of labrus distinguished by Artedi under the appellation of the red forked-tail labrus, called *anthias piscis* by the generality of writers.

**SACHET, OR SACHETTUS.** A marine fish bearing a strong resemblance to the common river-perch both in shape and colour, and having the same black oblique transverse lines on its sides; being apparently the same with the *channadella* of Bellonius, Rondeletius, and other ichthyologists. It is found in the Mediterranean; and commonly sold in the markets at Rome, Venice, and other parts of Italy. Its flesh is accounted delicate and well-flavoured. See **CHANE**.

**SACRE.** A term by which some ornithologists express a species of falcon. The names indeed of this kind have been multiplied beyond the necessary limits, and it is difficult to assign the Sacre any certain rank. According to Ray, it is a longer bird than the common falcon; its head is flat, and of a greyish colour; its eyes are large; and its beak is blueish. Its back and wings are brown; its breast is white variegated with brown spots; its thighs are white on the inside; its tail is variegated with kidney-shaped spots; and its wings are very long.

The young birds of this species, which are called *fori*, differ considerably in their plumage from those of a more advanced age. See **FALCON**.

**SAGOUIN.** A very beautiful small species of monkey, described by Clusius; apparently the same with the *Cagui Minor* of Marcgrave, and the *Simia Jacchus* of Linnæus.

Clusius says that it is about the size of a squirrel; that its head resembles a lion's; and that it is very tender and delicate, and impatient of the slightest injury.

**SAGREI.** An appellation by which some ichthyologists express the *galeus spinax*.

**SAI.** A term sometimes used to denote the capuchin monkey.

**SAIGA.** A name by which some naturalists denominate the goat.

**SAL-MARINUS.** A truttaceous fish of the umbla kind, nearly approaching to that species called the *reutele*; and by some authors suspected not to be essentially different from that fish. It is very scarce, and much valued for the table. It delights in clear stony rivers of a sharp current, and feeds on small fish. Its weight seldom exceeds one pound. Its tail and fins are red; its sides and belly are also reddish; and its back is of an orange colour, or a reddish yellow with some

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yellow spots. The scales are moderately large, and not easily removed.

Artedi distinguishes the *Sal-Marinus* by the appellation of the fork-tailed Salmon, with a yellow back and yellow spots.

**SALACIA.** A genus of insects of the gym-narthria kind; the body of which is ovato-oblong; and the tentacula are numerous, and disposed in small clusters. Some authors call this genus *priapus marinus*, and *mentula marina*.

**SALACSAE.** A Philippine appellation for a bird by whose flight the natives pretend to divine future events. It is of a small size, variously coloured, and has a long and large beak.

**SALAMANDER.** A name by which naturalists express several species of the lizard kind; but the principal are the *Salamandra terrestris*, and the *Salamandra aquatica*.

**SALAMANDER, LAND;** the *Salamandra Lacerta* of Linnæus. This creature has been the subject of much fiction; and vulgar prejudices have always made a wrong estimate of its properties. The ancients described a kind of lizard under this appellation, which they asserted was bred from heat, could subsist amidst fire, and even derived its proper nourishment from that element. As they observed every other element, the air, the earth, and the water, to be inhabited, fancy was set to work in order to invent an inhabitant of fire, that thus every part of nature might be peopled. It will be almost needless to affirm, that no such creature does exist; and that, of all others, the modern Salamander has the least affinity to such an abode.

It is doubtful whether the animal which now goes by the name of the Salamander be the same with that described by Pliny: however, suffice it to observe, that the Salamander of the moderns is an animal of the lizard kind; and that under this name is comprehended a large tribe. No less than seven different sorts of these creatures have been described by Seba; and, in order to form some idea of the peculiarity of their figure, we may suppose the tail of a lizard applied to the body of a frog. The Salamander, like the frog, has its eyes placed towards the back of the head; like that animal also, its snout is round; and its belly is thick and swollen. The claws of its toes are short and feeble; its skin is rough; and its tongue, unlike that of the smallest of the lizard kind, is short, and adheres to the under-jaw.

But it is not in its external conformation alone that this animal differs from the rest of the lizard tribe. In its nature it is dissimilar, being a heavy, torpid creature; whereas the lizard tribe are active, restless, and vivacious: and it farther differs from lizards, in being produced alive from the body of its parent, and compleatly formed the moment of its exclusion. It varies also in its general reputation of being venomous, though the truth of its malignity has never yet been ascertained.

Indeed many of the lizard kind have been reckoned poisonous; but it were to be wished that mankind, for the sake of their own happiness, would examine into the foundation of this reproach. Certain it is that their deformity is the only cause of offence in those species which are known in this country, and until our prejudices are removed respecting their malignity, we deprive ourselves of that pleasure which might result from a contemplation of creatures which, though



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useless; tend to animate the general scene of nature, and serve to link one class of beings with another.

With regard to the Salamander, the whole tribe, from the moron to the gekko, are said to be venomous to a high degree; yet, when experiments have been tried, no kind of provocation could excite these animals to the rage of biting. They seem timid and inoffensive, living only on worms and insects; they are destitute of fangs; and their teeth are so very minute, as scarcely to be able to inflict a wound. But as their teeth are evidently incapable of offending, the inhabitants of those countries where they are found have recourse to a venomous slaver which they suppose issues from the mouths of these animals. They also tell us of a venom which proceeds from their claws. Even Linnæus seems to acknowledge the fact; but thinks it probable that this venom may rather proceed from their urine.

With respect to it's powers of mischief, the gekko is the most remarkable of all animals of the Salamander kind: nevertheless, even those persons who calumniate this creature the most, acknowledge it's friendly disposition towards the human species; and, though furnished with the most deadly venom, it is never known to bite. To pronounce on the noxious or inoffensive qualities of animals, without some degree of experience, is undoubtedly absurd; but, from an inspection of the teeth of lizards, as well as a knowledge of the harmless qualities of such as are found in Europe, it is probable that the gekko has been unjustly stigmatized, and that it's figure has involved it in the common reproach with serpents.

The Salamander best known in Europe is from eight to eleven inches long, usually black, spotted with yellow; and, when taken in the hand, feels cold to a high degree. The idle report of it's being incombustible by fire has caused many of these poor animals to be burnt. When thrown into that all-devouring element, the creature is observed to burst through the intense heat of it's situation, and to eject it's fluids; and this, we are gravely told in the Philosophical Transactions of our own country, is the method which this animal adopts to extinguish the flames.

The internal conformation of the Salamander is not essentially different from other animals of the lizard kind: it is furnished with lungs, which assist it in the act of respiration; as also with a heart having it's communications open, so that the creature cannot easily be destroyed by water. The ovary of the female is double the size of that common to others of this tribe; and the male is furnished with four testiculi, instead of two. But, what deserves particular notice, is the manner of this animal's bringing forth it's young alive. 'The Salamander,' says an ingenious author, begins to shew itself in spring, and chiefly during heavy rains. When the warm weather returns, it disappears; and never quits it's hole either during great heats or severe colds, both which are equally inimical to it's pleasure or existence. When taken in the hand, it appears like a lump of ice; it consequently loves the shade, and is found at the roots of old trees surrounded with brush-wood at the bottom. It is fond of running along new-plowed grounds; probably in quest of worms, it's ordinary food. One of these (continues our author) I took alive some years ago in a ditch which had been lately made: I laid it at

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the foot of the stairs on coming home, and there it disgorged from it's throat a worm three inches long, that lived for an hour after, though wounded, as I suppose, by the teeth of the animal. I afterwards cut up another of these lizards, and saw not less than fifty young ones come from it's womb, all alive, and actively running about the room.'

Salamanders are all amphibious, or at least are found capable of subsisting in either element. If those taken from the dry land are put into water, they will continue there in seeming health; and, on the contrary, such as are removed from the water will live on the land. In water, however, they exhibit a greater variety in their appearance. They sustain the want of food in a surprising manner: one of them, brought from the East Indies, we are told, lived nine months without any other aliment than what it received from licking a lump of earth on which it was placed; another was kept by Seba in an empty phial for six months, without any nourishment whatever; and Rhedi mentions a large one brought from Africa, that lived for eight months without any food whatever. Indeed, both Salamanders and lizards are nearly in a state of torpidity during the winter season; and therefore their great abstinence seems the less extraordinary.

SALAMANDER, WATER; the *Lacerta Palustris* of Linnæus. This animal, called also the water-newt or eft, is common in fish-ponds and other stagnant waters; and is distinguished from all the others by the flatness of it's tail. However, there are some persons who affirm, that there is no specific difference between the land and Water Salamander, but that their variations arise solely from the nature of their situations. During the whole spring and summer, the Water Salamander changes it's skin every fourth or fifth day; and, in the winter season, every fifteen. This operation, which is performed by means of the mouth and claws, seems to be attended with much difficulty and pain. Their cast skins are frequently seen floating on the surface of the water; the animals are also sometimes observed with a part of their old skins sticking to one of their limbs, from which they have not been able to disengage themselves; and thus, in some measure, appearing crippled: this likewise often corrupts, and the leg drops off; but the animal does not seem to feel the want of it, for the loss of a limb to all the lizard kind is but a trifling calamity. They live for several hours after the loss of their heads; even under dissection, all their parts appear to be animated a considerable time, but their tails preserve their motion the longest. Salt, however, seems to be more efficacious in destroying these animals than even the knife; for, on being sprinkled with it, their whole bodies emit a viscous liquor; and the creatures expire in a very few minutes under every symptom of extreme agony.

SALAMANDRINO. An appellation given by some of the Italian ichthyologists to that species of salmon which Salvian denominates *Sal Marinus*.

SALAMGA. A Philippine name for a species of sea-swallow, the nest of which is esteemed as an ingredient in soups.

SALAR. A term by which some ichthyologists express the trout; others, the salmon while very small.

SALAYASIR. An appellation for a Philippine bird of the duck kind, common in these islands.



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islands. It frequents the lakes and marshes; its colours are extremely beautiful; and it is one of the smallest of the genus to which it belongs.

**SALMON.** A genus of abdominales in the Linnæan system. According to Artedi, the distinguishing characters of this genus of fishes are; that the branchiostegæ membrane on each side contains eleven, twelve, or nineteen bones; the body of the fish is generally variegated with spots; the dorsal fins are placed nearer the head than the ventral ones; and the teeth, which are large, are arranged in the jaws and palate, and on the tongue: to which may be added, from Linnæus, that the posterior dorsal fin is adipose, and that the ventral fins have many rays.

**SALMON, COMMON;** the *Salmo Salar* of Linnæus. This is a northern fish, being unknown in the Mediterranean, and other warm climates. It is found in France in some of the rivers which empty themselves into the ocean, and as far north as Greenland. In several countries these fish constitute a principal article of commerce, being cured different ways, by salting, pickling, and drying. There are stationary fisheries of them in Iceland, Norway, and the Baltic: but the most considerable are at Coleraine, in Ireland; and at Berwick upon Tweed, in England.

The Salmon was a fish known to the Romans; for Pliny speaks of it as found in the rivers of Aquitaine; and Ausonius enumerates it among those of the Mosel: but the Greeks appear to have been unacquainted with it. According to its different ages, it receives distinct appellations: those which are taken in the Ribble, in Yorkshire, are called Smelts the first year; Sprods, the second; Morts, the third; Fork-tails, the fourth; Half-fish, the fifth; and in the sixth year, when they are supposed to have attained their proper growth, they are deemed worthy of the name of Salmon. In all parts of Europe the size of these fish is nearly the same; the largest weigh from thirty to forty pounds, though some have been caught of the weight of seventy pounds each.

The Salmon is a fish so generally known, that a brief description of its figure and colours is sufficient. The body is longish, and covered with small thin scales; the head is small in proportion to the body; the snout is sharp; and the tail is forked. The back is of a blueish colour; and the other parts are generally white, intermixed with blackish or reddish spots, arranged in a very beautiful manner. The female may be distinguished from the male by having a longer and more hooked snout, as well as duskier scales; and by the body being speckled all over with dark brown spots. The belly is also more depressed; and contains less red. From the lower jaw of the male proceeds a bony gristle, resembling the beak of a hawk, which serves as a defence against such fish as would devour their spawn: this excrescence grows to the length of nearly two inches, and falls off when the fish returns to the sea. The Salmon is likewise more spotted in fresh water than in the sea: the teeth are small in proportion to the body; and the gills are quadruple, with a broad cover full of red spots. The flesh of the Salmon, when fresh killed, is not so red as when boiled or fried: it is tender, luscious, falls into flakes, and is generally preferred to that of almost any other fish. About the time of spawning, it becomes more insipid than at other seasons, and the fish loses much of its beautiful colours.

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The Salmon is thus cured. It is split, then rubbed with fine salt; and, after lying in pickle for six weeks, is packed up with layers of coarse brown Spanish salt in casks, six of which make a ton: these are exported to Leghorn and Venice, at the price of twelve or thirteen pounds per ton, though formerly they fetched a much higher price.

Salmon are equally natives of fresh and salt waters; and quit the sea at certain seasons, in order to deposit their spawn in security in the gravelly beds of rivers remote from their mouths. They are often taken in the Rhine as high as Basil: they gain the sources of the Lapland rivers, in spite of their rapid courses; and surpass the perpendicular falls of Leixlip, Kennerth, and Pont Aberglastyn.

These fish live for several years; and may be kept alive a considerable time separate from the water. The best are well fed, large, of a middling age, tender, short, reddish, and taken in fine clear running waters. As an aliment, the Salmon abounds with volatile salt, and oily and balsamic particles, which render it nutritive, strengthening, and invigorating: it is diuretic, pectoral, and restorative; but, if eaten too profusely, it occasions vomitings and indigestions; and, if too old, it proves dry and hard, and lies heavy on the stomach.

The Salmon-fishery was very early deemed an article of great importance. In the 13th of Edward I. an act was passed to prevent the capture of these fish, from the Nativity of our Lord to St. Martin's Day, in the waters of the Humber, Ouse, Trent, Don, Arre, Derwent, Wharfe, Nid, Yore, Swale, and Tees; and successive monarchs have provided for the security of fish in other rivers.

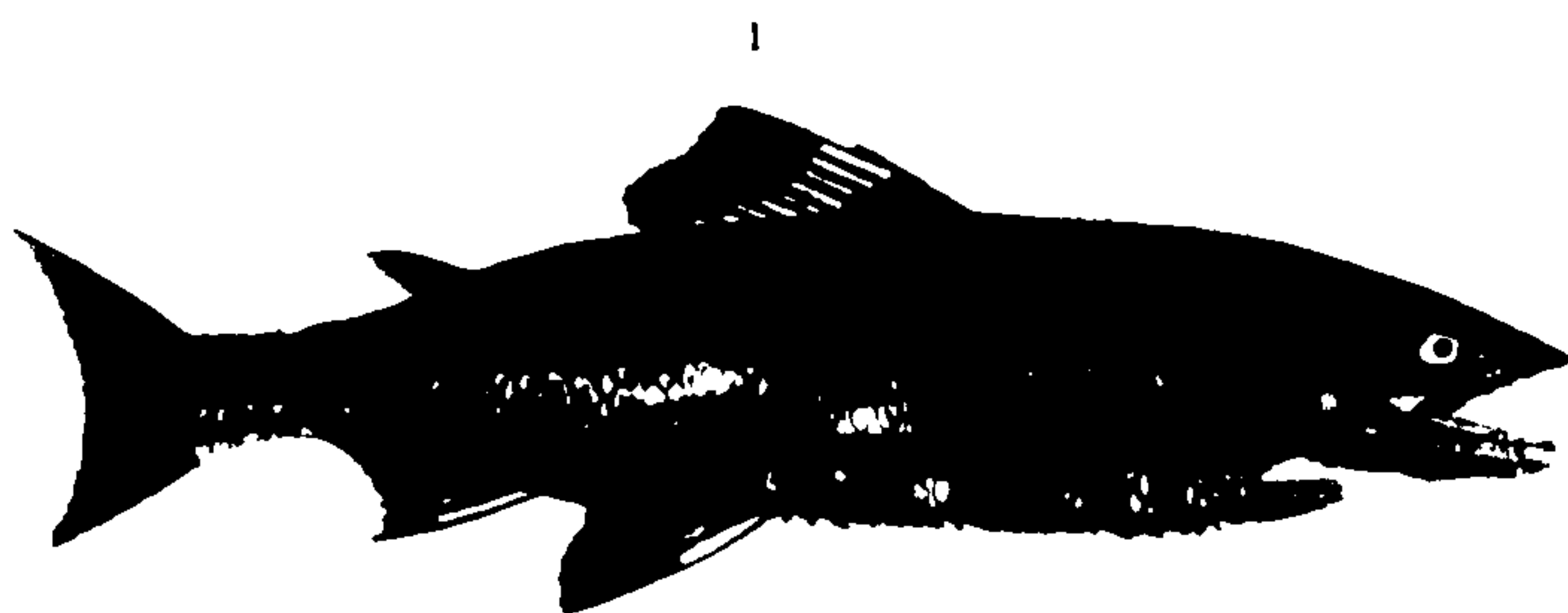
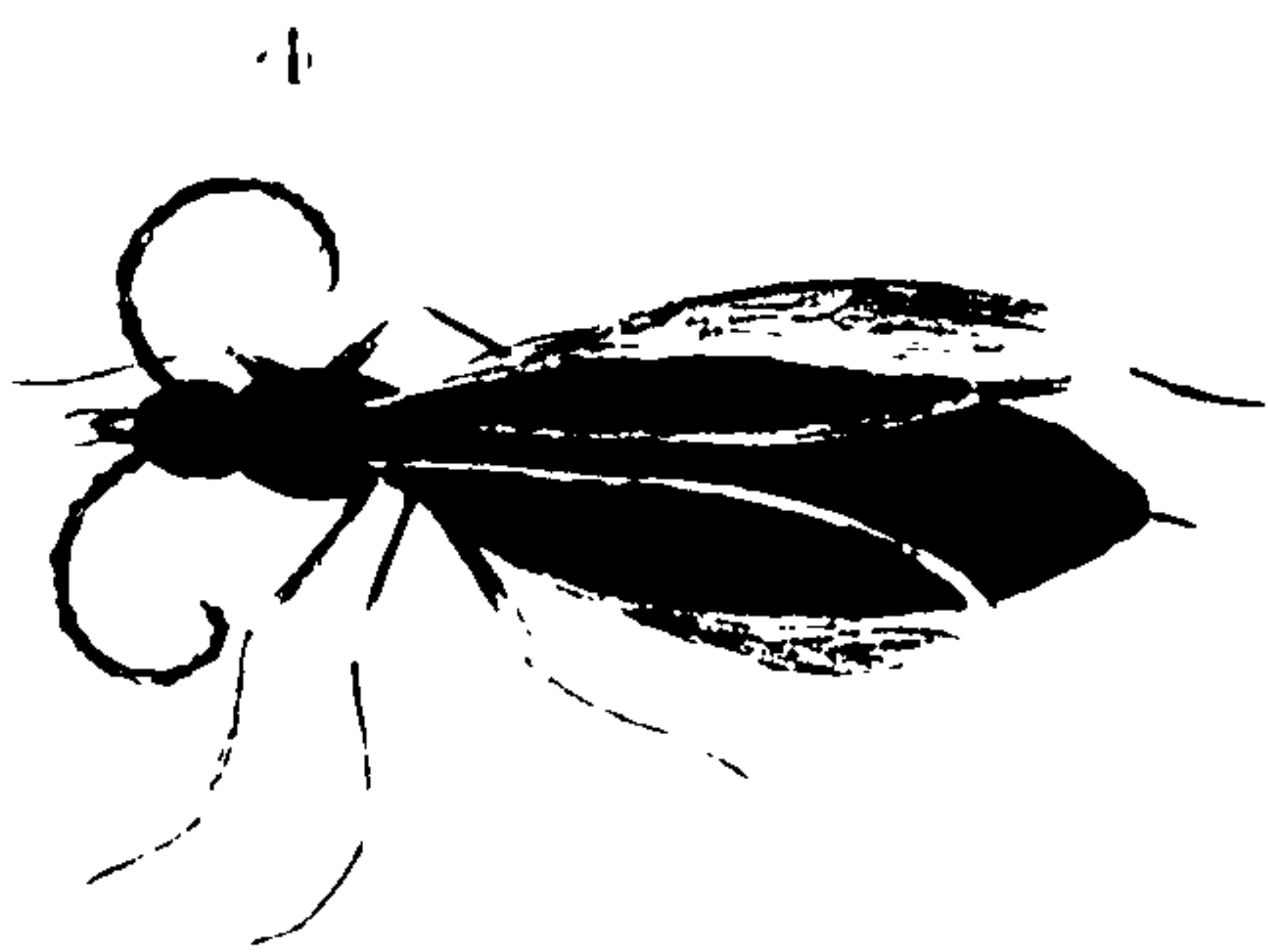
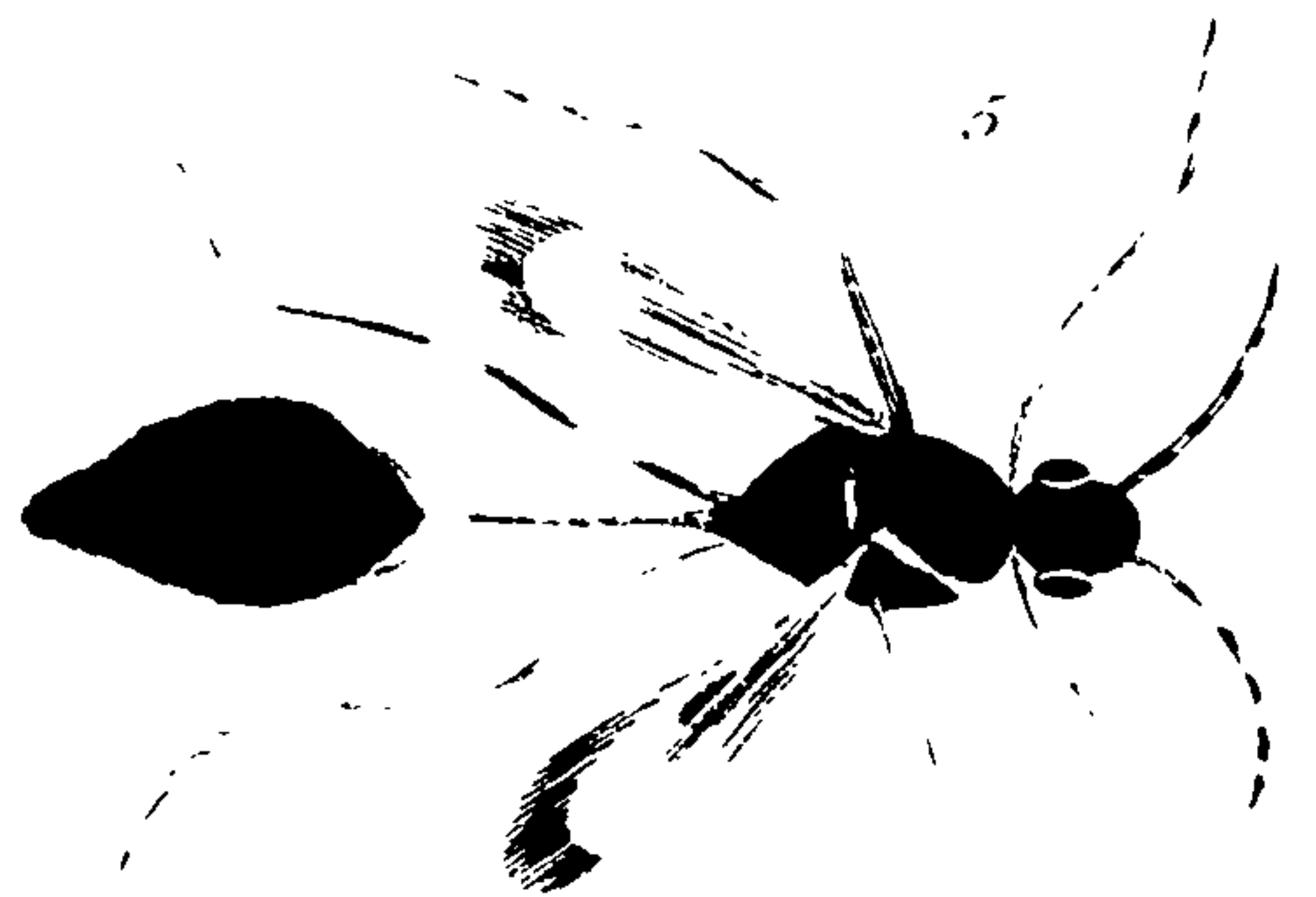
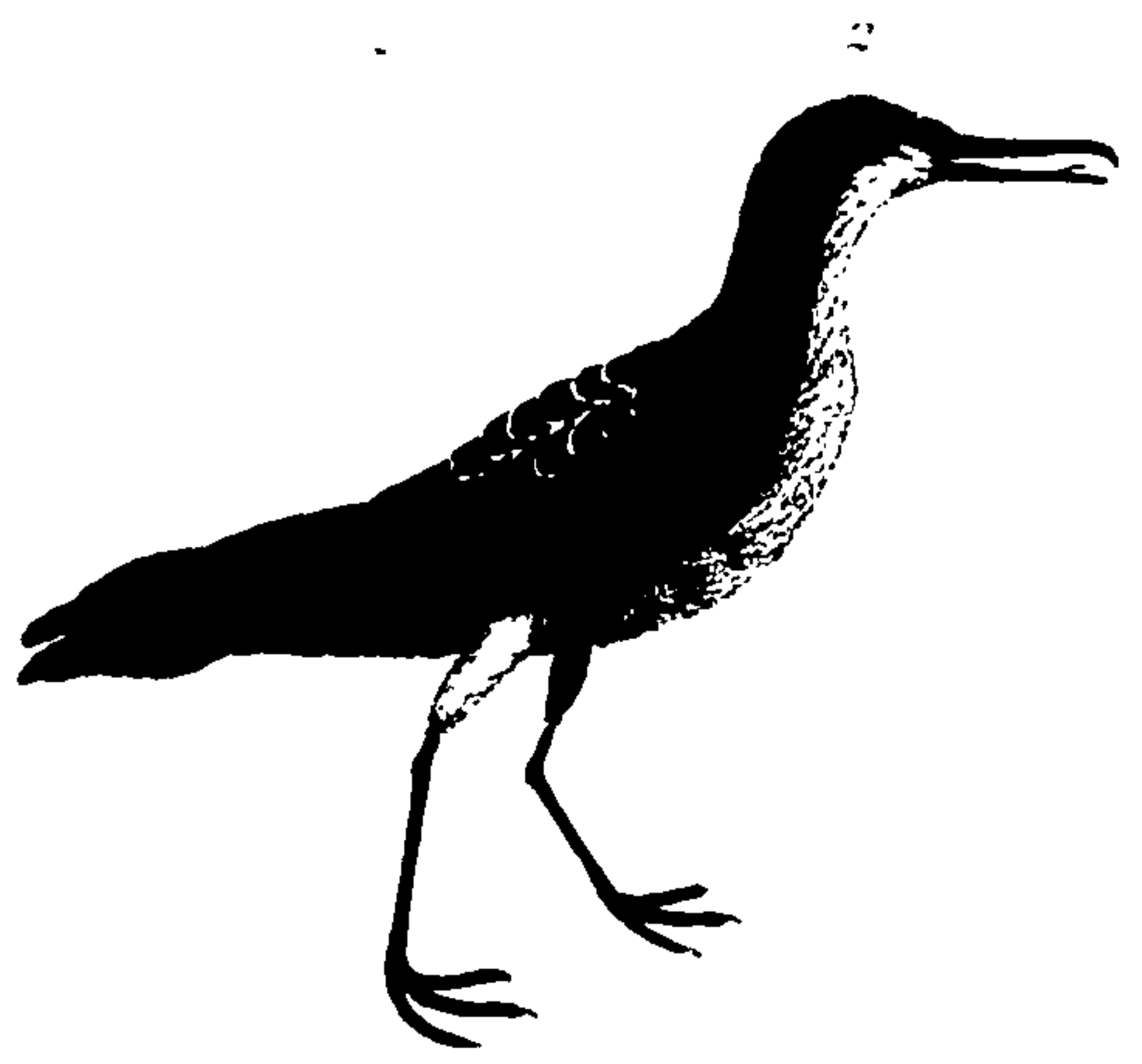
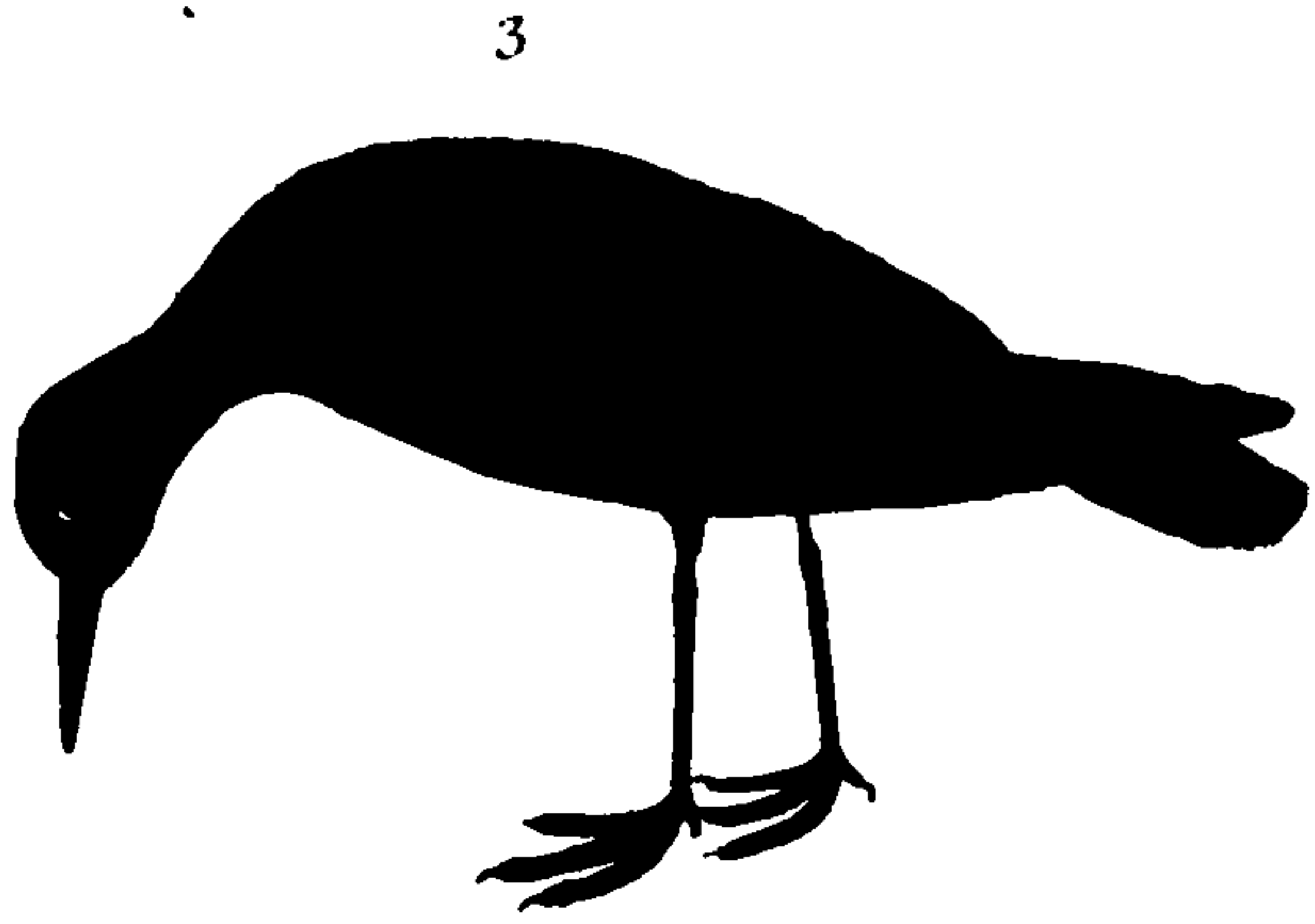
The Salmon fry, or smelts, leave the Mersey about May or June; and then weigh about two ounces each: they return about August or September, when their weight is from one pound and a half to two pounds.

The Salmon ought to be kept a few days before it is dressed; for which reason it is better when it has reached London than when caught in the Mersey. About the time of spawning, it is less valued; and even the very colours, from their dulness, indicate the fish to be out of season: then it is commonly denominated a Knipper.

The Salmon inhabits the rivers for about six months in the year: it enters the fresh water about December or January; and is sometimes caught in the Mersey in November, February, or March, where it continues till the autumnal season, when it casts its spawn, and soon after returns to the sea. But the very reverse of this is reported of the Salmon peculiar to the river Ex, in Devonshire, and the rivers Utk and Wye, in Monmouthshire, where they are said to be in season during the other six months.

When the time of spawning arrives, the female seeks some proper situation in a gravelly bottom, where she works with her head, tail, belly, and sides, till she has formed a kind of nidus, of the same dimensions with herself; which done, she discharges her spawn, and retires. Then the male, or milt, advances. This is no sooner over, than the female returns to the male, when they jointly endeavour to cover their brood with the gravel, in which they work with their noses in the manner of hogs: after this they return to the deep, in order to recover their strength, which they





1 SALMON 2 SANDERLING 3 RED SAND PIPER 4 COMB-FOOTED SAVAGE  
5 TURNER SAVAGE 6 MOTTTLED SAW FLY 7 MOURNING SAW FLY



they effect in about twenty days. At this time their flesh is of no value: and, to prevent their destruction, the laws of this country inflict a penalty on those who destroy Salmon between the 11th of August and the 22d of November; but, perhaps, it would be better for the community if the restrictions were laid from September to December.

Nothing is more curious, with respect to the history of these fish, than their surprising agility in leaping over every obstacle which opposes their passage, either to or from the sea; for they are frequently seen to throw themselves up cataracts and precipices many yards above the level of the water. They sometimes make several essays before they can accomplish their point; and, when they have effected it, their destruction has often been the consequence, from baskets placed for their reception at the top of the fall. On the river Twy, in Pembrokeshire, there is a remarkable cataract, where the surrounding natives often stand admiring the strength and agility of these creatures while endeavouring to recover the river from the sea; and on this account it is known in those parts by the name of the Salmon-leap. On the river Wear, near the city of Durham, there is another of this kind, supposed to be the best in England. And there is a third in the river Don, at Old Aberdeen, where these fish have been caught in such abundance, as to be deemed the principal trade of the place.

Whenever the passage of Salmon to the sea is intercepted by wiers, or other similar contrivances, they soon grow sickly, lean, and languid; and, if caught in that condition, prove tasteless and insipid: and the second year, unless they find access to the salt-water, pine away and die. It is also observable, that these fish are not only desirous of returning back to the rivers in general, but to that very river where they were spawned; as evidently appears by an experiment made by fishermen and others who have caught them when very small, and run a small ribband, tape, or thread, through the caudal fin; by which mark they have been assured that the identical fish has been retaken at the same place as it returned from the sea; and by this means have also discovered that the growth of the Salmon is more rapid than that of any other fish.

The most celebrated Salmon rivers in England are the Thames, the Severn, the Mersey, the Trent, the Medway, the Dee, the Ex, the Utk, the Wye, the Lon, the Tyne, the Werkington, and the Weaver: however, the London markets are chiefly supplied from the north, where these fish are not only more plentiful, but earlier in season than in the southern rivers.

The Mersey greatly abounds with Salmon, which in spring strive to ascend that arm of the sea, and with difficulty evade the nets of the fishermen before they reach Warrington Bridge, where the river becomes narrower; and the landowners having an exclusive right, each proprietor, by his agents, catches Salmon, amounting annually to upwards of a thousand pounds. By this capture the towns of Warrington, Manchester, and Stockport, are well supplied; and the overplus is either sent to London by the stages, or carried on horseback to Birmingham and other inland towns.

Having given a general history of the Salmon, it will not be amiss to notice the method of

catching it with the angle. And here it may be necessary to premise, that this fish does not continue long in one place, but seems desirous of getting nearer and nearer to the fountain-head. It neither lurks near the bank, nor under the roots of trees, but swims in the deep and broad parts of the water, generally in the middle, and near the bottom. However, the Salmon smelts commonly lie in the rough and upper parts of a gentle stream, pretty near the middle, during the months of April and May; and nearer the side earlier in the spring.

In the Hebrides, a raw cockle taken out of the shell is found to be the most alluring bait for Salmon; and with this the fishers angle at the bottom, using a running bullet. This method is also practised with success in the river Medway, by letting the cockle fall into a shallow, from whence there is a gradual descent into a deep hole. In most of the Salmon rivers on the continent, and particularly in France, they use prawns, or muscles taken out of the shell.

In the month of October, these fishes ascend the small rivers as far as they are able, in order to deposit their spawn; and at that season many get high up in the Mersey, where some few are caught by angling: but the far greatest part of them are destroyed with spears, by poachers, though their flesh is at that time of very little value. Thus considerable damage is done to the breed of Salmon, without any prospect of advantage to the perpetrators of this mischief; a circumstance which inclines us to wish that the laws were more strictly enforced, and private property better ascertained, in order to the preservation of these valuable fish.

In England, the most usual baits for Salmon are lob-worms, small dace, gudgeons, bleaks, minnows, or two well scoured dew-worms, which should be often varied, to gratify the humour of this capricious fish; for what it delights in one day, it often despises the next; and indeed it is sometimes utterly impossible for an angler to find a bait suitable to its taste. However, it generally bites best about three in the afternoon, in May, June, and July, especially if the weather happens to be clear, and there is a small breeze of wind stirring; but there is still a greater prospect of success if the wind and stream happen to set contrary ways.

For the Salmon-fry, called also the Salmon-smelt, the properest baits are ant-flies, brandlings, earth-bobs, gentles, black and dun gnats, small hackles of all colours, and dub'd flies, according to the season: they are also taken with various other sorts of bait, particularly the red-worm. The places where they generally abound are the flocks near the deeps, or among woods or weeds. They always leave the Mersey in May or June.

The chief Salmon-fisheries in Europe, are along the coasts of England, Scotland, and Ireland. The fishing usually begins about the first of January, and ends on the eleventh of August. It is performed with nets in those places where the rivers empty themselves into the sea, and along the sea coasts in the vicinity; because these fish are observed to crowd thither from all parts in search of fresh water. They are also fished for higher up in the rivers, sometimes with nets, and at others with locks or wiers built for that purpose; and so contrived, that the fish, in passing up the rivers, can open them with their heads, but they



## S A L

they are no sooner entered, than these openings shut, and prevent their return. Thus the Salmon are enclosed as in a reservoir, where they are easily taken.

Near Flixon, in Lancashire, the inhabitants fish for Salmon in the night-time, by the light of torches, or kindled straw; which the fish mistaking for day-light, make towards, and are struck with spears, or taken in nets, which having been previously disposed where the fire was intended to be kindled, are lifted up with a sudden jerk from the bottom. In some parts of Scotland, men on horse-back enter the rivers; and whenever they discover any Salmon in the shallows, shoot them with fire-arms. It is also a common practice to dart these fish as they attempt to pass the wiers.

The fishing season commences in the Tweed on the 30th of November; but the fishermen make but little progress till after Christmas. It ends on Michaelmas-day; but the corporation of Berwick, who are conservators of that river, indulge the fishermen with some additional days.

There are no less than forty-one considerable fisheries on the Tweed, extending upwards of fourteen miles from it's mouth, which are rented for more than five thousand pounds yearly. A misfortune, however, attends this river, which seems to require a parliamentary remedy; namely, that part of the fishery belongs to Scotland, and part to Berwick; and, from an opposition of interests, they seldom unite in the preservation of the fish: so that in some fisheries they continue killing the Salmon during the whole winter, when the death of one fish proves the destruction of thousands. About the month of July, the capture in this river is prodigious: in a good fishery, a boat's load is often taken at a time; upwards of seven hundred fish have been occasionally caught at one haul; and from fifty to a hundred is a very common draught.

All fishermen agree that no food is ever found in the stomachs of these fish. It is probable that, during the time of spawning, they may wholly neglect their aliment, as sea-lions and sea-bears are known to do for months together during their breeding season; and it may be observed that, like those animals, Salmon return to the sea in a lean state, though they left it in very good condition. It is evident that they frequently vary their food, for anglers use both fish and worms with good success; and sometimes a large, gaudy, artificial fly, proves a very tempting bait.

Artedi enumerates ten species of this genus; and Linnæus increases the catalogue to twenty-nine, dividing them into four classes.

SALMON, ALPINE; the *Salmo Alpinus* of Linnæus. See CHARR.

SALMON, GREY. See GREY.

SALMON PFEIL. An appellation given to a fish very common in some of the Welsh rivers; agreeing in the colour of it's flesh, and perhaps also in kind, with the common Salmon.

SALMON SEWSE. A name by which the young fry of the salmon is sometimes expressed.

SALMON TROUT; the *Salmo Trutta* of Linnæus. This fish, which is also denominated the *trutta lacustris*, the bull trout, and fourth, differs from the Salmon in it's tail being less bifid; from the grey, in having a shorter and thicker head; and from both, in being smaller, seldom exceeding twenty inches in length. It's flesh is

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white, and less delicate than that of the salmon and the grey.

These fish delight in deep holes, and usually shelter themselves under the roots of trees. When watching for their prey, they generally make choice of that side of the hole which is towards the stream, that they may more readily catch whatever food the current brings down with it. They will rise at artificial flies like salmon; but their most favourite baits are well-scoured brandlings, especially such as are bred in tanners yards.

Salmon Trout continue in season during the whole summer; and may be angled for either in the mornings or evenings. The angler must keep out of sight, and let his line fall into the stream without any lead except one single shot; and then it will be carried gradually into the place where the Trout resides.

This fish sometimes weighs about four pounds. The irides are silvery; the head is thick, smooth, and dusky, with a gloss of blue and green; and the back is of the same colour, except that it becomes fainter towards the lateral line. The sides, as far as the lateral line, are marked with large, distinct, irregular-shaped spots of black; and the sides beneath the line, as well as the belly, are white. The dorsal fin consists of twelve rays, the pectoral of fifteen, the ventral of nine, and the anal of ten.

The descriptions of this fish are frequently very obscure. It's name is variously applied: sometimes it is used to express the young of the salmon; and at others it is given to a kind of pond-trout found in France, which frequently weighs upwards of thirty pounds.

SALPA; the *Sparus Salpa* of Linnæus. A fish caught in the Mediterranean, and commonly seen in the Italian markets. It is usually about a foot in length, and somewhat flattened; the body is considerably thick; and the back is straight. The sides are variegated with a number of fine gold-coloured lines running longitudinally; the intermediate spaces between these, toward the back, being of a blueish green, and white toward the belly. The mouth is extremely small; and the teeth, which are thick and broad below, terminate in a double point. There is only one dorsal fin, the anterior rays of which are prickly, and the hinder ones soft.

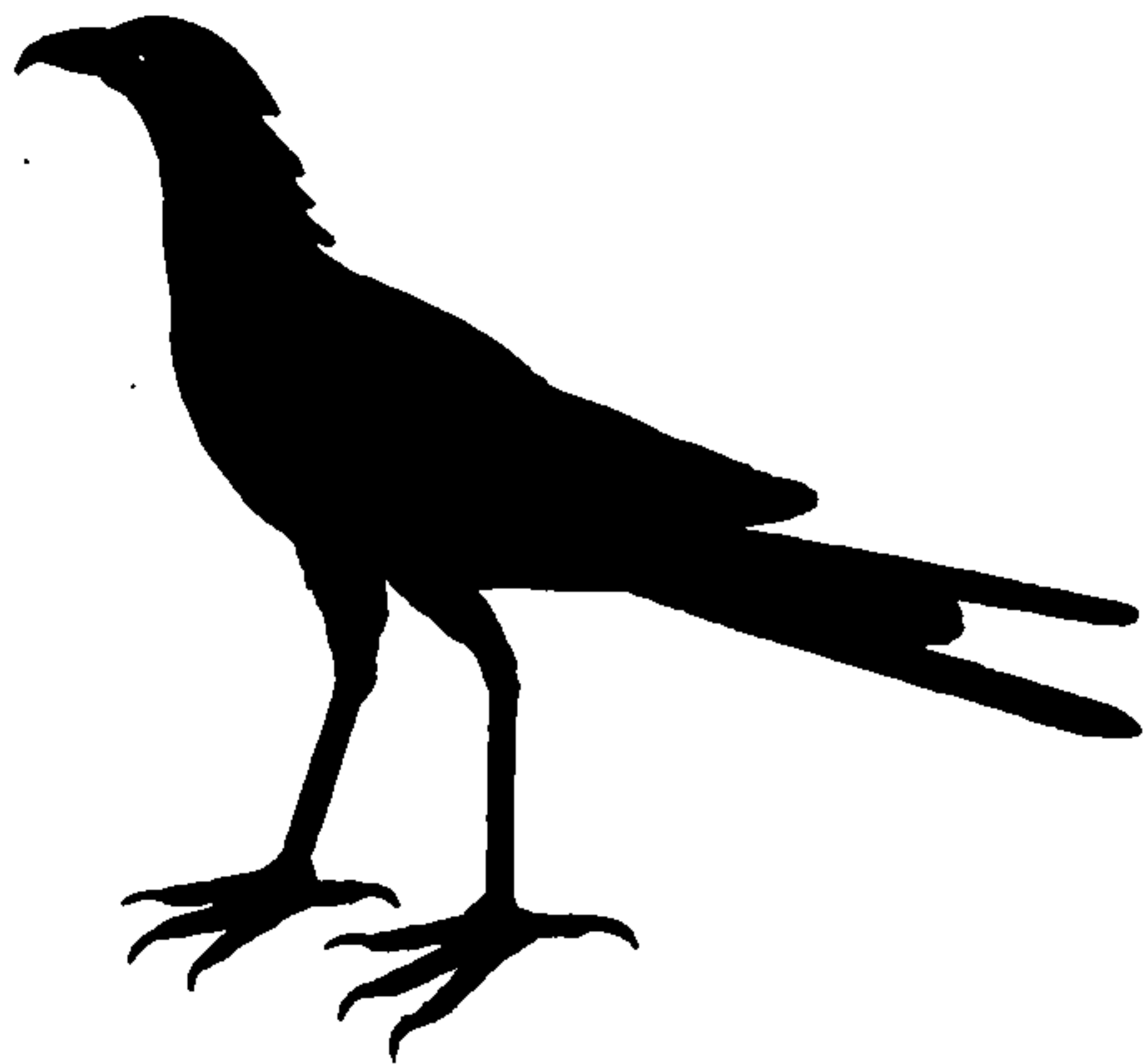
These fish generally frequent the shores in large shoals; but their flesh is held in little estimation.

SALPUGA. See SOLIPUGA.

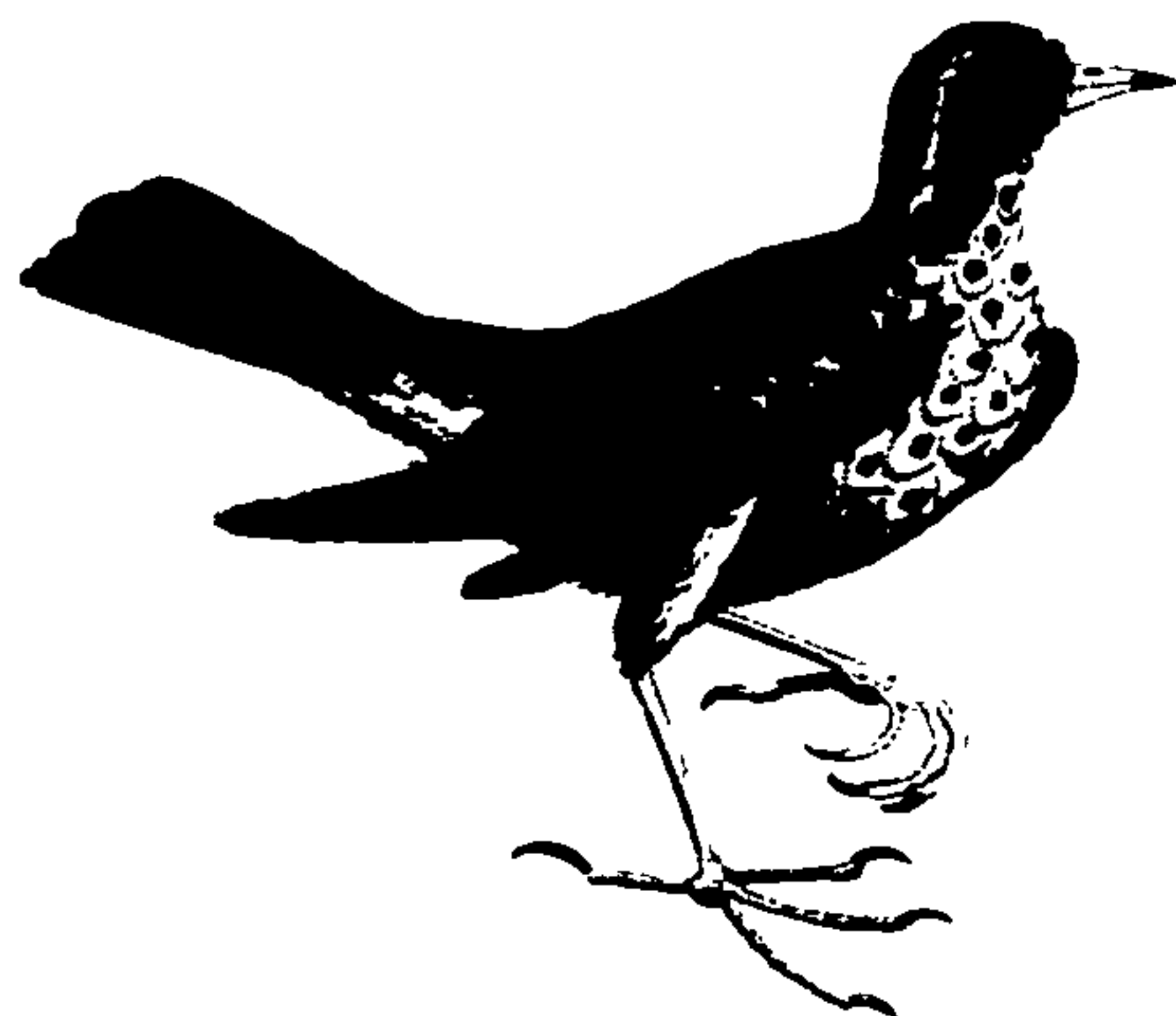
SAMLET, the *Salmulus* of Ray. A fish of the truttaceous kind, frequently found in the Wye, where it is called skirling or laspring; in the upper part of the Severn, and those rivers that join it; and in the north of England, in Wales, and in Scotland, where it is called par, brandling, or fingery. It seldom exceeds seven inches in length. It's shape bears a strong resemblance to that of the trout; but differs in the following particulars: the head is narrower, the mouth less, and the body deeper; it has fewer spots, and those of a deeper colour; the pectoral fins have generally one large black spot, attended sometimes with a small one; whereas the pectoral fins of the trout are more variously marked. The tail is more bifid; the spurious, or fat fin on the back, is never tipped with red; nor is the edge of the anal fin white: the sides under the lines are yellowish.



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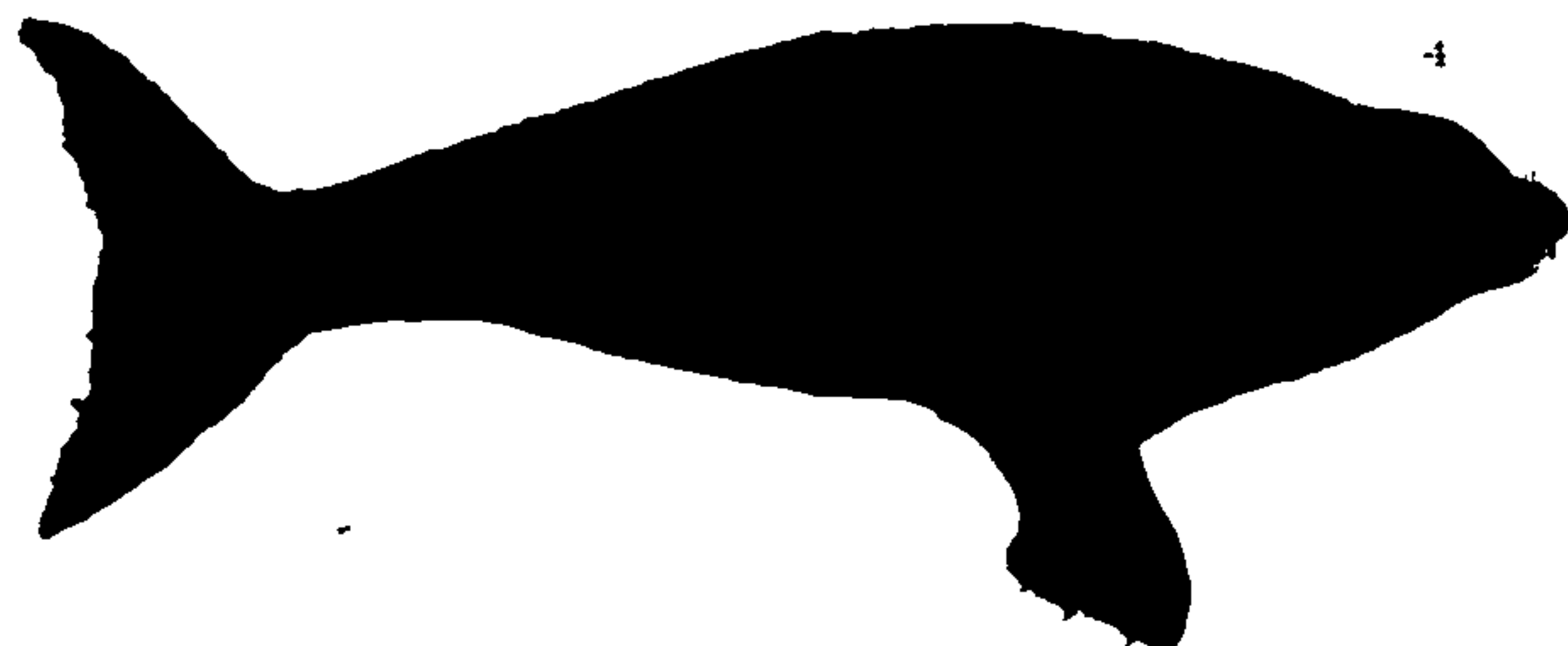
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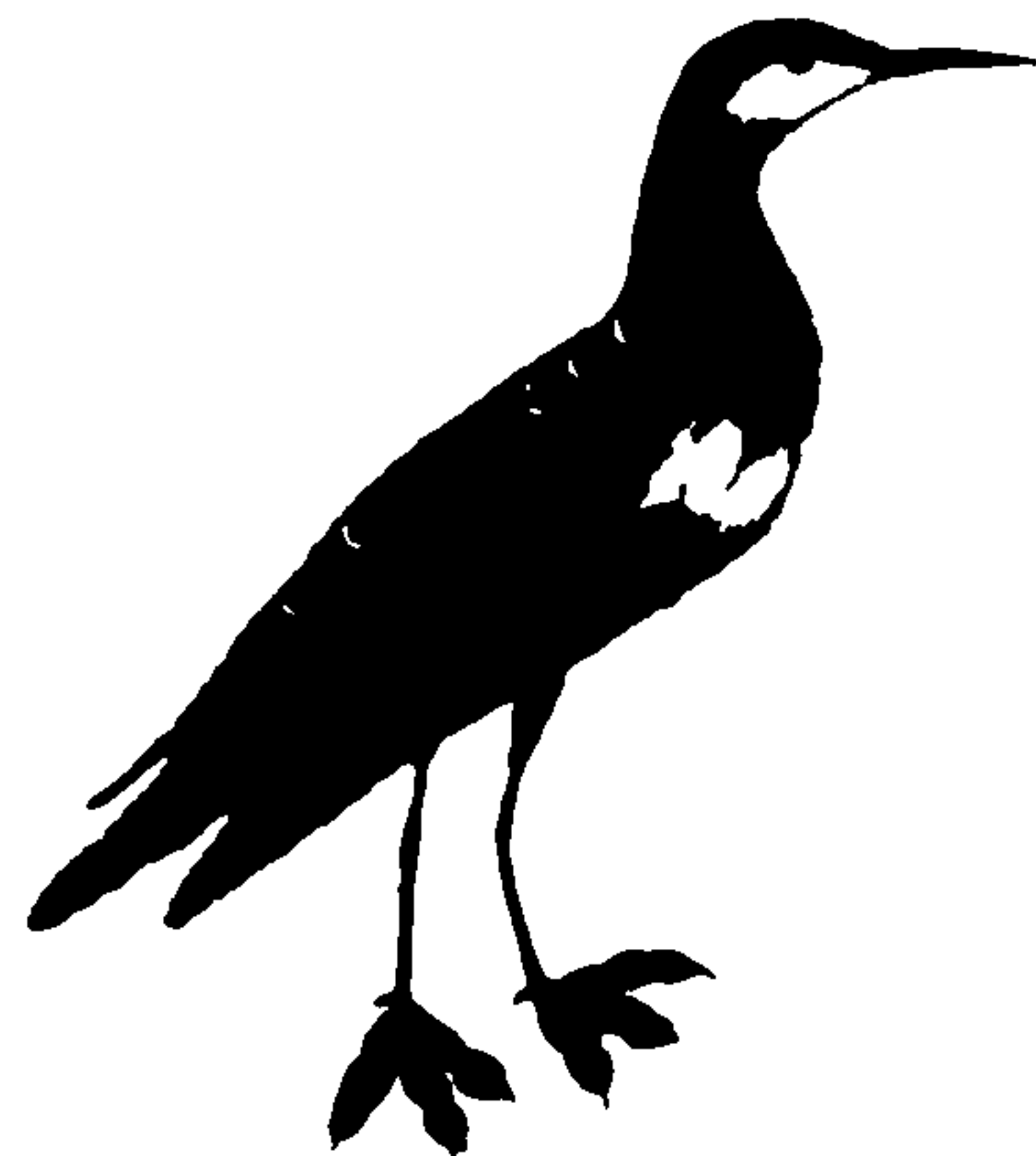
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1. RED TAIL TROPICBIRD 2. SCAD 3. SEAL 4. HUMPBACK SEAL

5. MASKED BOOBY 6. FRIGATEBIRD



## S A N

lowish; and there are several blueish streaks near the lateral line, though these last are sometimes found in young trout.

Many have imagined this fish to be the fry of the salmon; but Pennant differs from this opinion, for these judicious reasons: because the salmon fry never continue in fresh water during the whole year, but disappear after the first vernal flood that happens, which sweeps them into the sea: because the growth of the salmon fry is so rapid, that they soon exceed the bulk of the largest Samlet: because the salmon attains a considerable bulk before it begins to breed, whereas the Samlets are found males and females, of the common size, distinguished by the milt and roe; and because they frequent the fresh waters at all times of the year, and even at seasons when the salmon fry have gained a considerable size.

The Samlets spawn in November and December; at which time those of the Severn push up towards the head of that fair river, quitting the lesser brooks; and, after having accomplished this momentous purpose of their lives, they return again.

**SAND EEL.** An appellation by which some authors express the lance, or ammolytes.

**SAND-PIPER.** A name given by Pennant to the tringa of Linnaeus; because most of the species belonging to this genus are found about the shores, and have a whistling or piping note.

**SAND-SWALLOW;** the *Hirundo Riparia* of Linnaeus. A very small bird, which builds in holes and sand-pits; and also in the banks of rivers, penetrating some feet deep, and boring through the soil in a surprising manner with its feet, claws, and bill. It forms its nest of hay, straw, and other materials; and lines it with feathers. It lays five or six white eggs; and brings forth its young the earliest of the swallow tribe.

The head and whole upper part of the body of this bird are mouse coloured; the throat is white, encircled with a mouse coloured ring; the belly is also white, and the feet are smooth and black.

**SANDERLING;** the *Charadrius Caladris* of Linnaeus. This bird is a native of some parts of Lancashire; but is by far more numerous in Cornwall, where whole flocks are seen together. It weighs little more than one ounce and a half; its length is eight inches; and the expansion of its wings is sixteen. The body is of a more slender form than others of that genus; the bill is one inch long, weak, and black; the head and hind part of the neck are ash coloured, marked with oblong black streaks; the back and scapulars are of a brownish grey hue edged with dirty white; the covers of the wings, and the upper parts of the quill feathers, are dusky; and the whole under side of the body is white, but in some slightly tinged with brown. The tail consists of twelve sharp pointed feathers of a deep ash-colour, and the legs are black.

**SANGUINEROLA.** An Italian appellation for the pioxenus, or minnow; so called from the blood red colour which is conspicuous under its belly. Artedi reckons it a species of the cyprinus.

**SANGUIVORUS.** A name by which some naturalists express the leech, or leech.

**SANS-PAREILLE.** The French term for a particular species of the salmon, the mouth of which opens very small, so that of the other kinds it is distinguished among the rest. It is found only in the river of the Saône, and along the foille.

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ones, we find several in England with this peculiarity.

**SARACHINUS.** An appellation given by some ichthyologists to the fish called by the generality of authors thrissa; in English, the shad, or mother of herrings.

Naturalists have given names to the herring kinds according to their different growth and size, and multiplied the species much beyond the truth. Artedi observes, that the *agonus* and *Sarachinus* are only herrings of different growth; and that the *alausa minor* of ichthyologists is synonymous with *agonus*.

**SARACUS.** A name by which some writers express a fish of the herring kind; called also *agonus*, and *alausa minor*.

**SARDA.** An appellation sometimes given to the fish more usually known by that of pelamys, or pelamys *Sarda*; a creature resembling a young tunny, but furnished with longer and larger teeth, and without any scales.

**SARDANUS.** A fish of the harengiform kind, caught in the Mediterranean, and common in the markets of Rome and Venice. The body is broader than that of the pilchard; the back is green; and the line running along the belly is considerably smoother than in that fish.

It is indeed easy to distinguish this fish from the pilchard; but more arduous to explain in what respect it differs from the common herring, except in size: Willughby therefore seems to think it probable, that it is no distinct species of fish; but that the herring, like the pilchard, is always smaller in the Mediterranean than in the ocean.

**SARDELLA.** An appellation whereby some writers express the pilchard of the Mediterranean; which they suppose to be different from that of the ocean, though in reality they appear to be the same, except in size; which circumstance originates from their situation.

**SARDINA.** A name by which some ichthyologists express the small pilchard of the Mediterranean.

**SARFE.** A term sometimes used to signify the red-eye.

**SARGUS.** A fish well known to the ancients, and much esteemed for the delicacy of its flesh; still caught in abundance in the Mediterranean and Adriatic.

The shape of the *Sargus* somewhat resembles that of the *sparus*; but its nose is longer, and more pointed, turning up a little; and its canines are shaped like the human. It has no tubercles in the hind part of its jaws, as the *sparus* has; and its whole body is variegated with brown transverse rings, resembling the variegations of the peach. It has only one dorsal fin, the anterior rays of which are prickly, and the posterior soft.

**SARGUS.** A river fish; called also garden, fardus, and cephalus, and by many supposed to be little different from the common roach. In its general figure, it resembles the chub; but it has a smaller head, and a somewhat broader body. The back is blueish, the neck greenish, and the belly white. Its eyes are yellow, and its collection of teeth, and it is usually leaner than a chub.

This fish is extremely useful to the French, who, in imitation of an old proverb, 'As found as a roach,' say, 'As found as a garden.' It is common in the rivers of France, Italy, and Germany.

J. R.



## S A V

Germany; and is esteemed pretty good for the table.

**SARIGOY.** An appellation by which some naturalists denominate the creature more usually known by the name of the opossum.

**SARIO.** A distinctive appellation for the salmon in the middle state of it's growth; when it has passed it's younger state, in which it is properly stiled salar; and not yet arrived at maturity, when it obtains the name of salmo.

**SASSOROLLA.** A peculiar species of pigeon; called also columba rupicola, or the rock-pigeon. It is shaped like the common pigeon, but smaller; it's legs are red; and it's back is of a variegated grey colour. It appears to be the livia of some writers.

**SAVAGE, SpheX.** A genus of flies described by Hill: the distinctive characters of which are; that the mouth is formed of oblong jaws, without trunk or tongue; that the wings lie smooth, and perfectly even; that the antlers have ten joints; and that the weapon at the tail is simple, sharp, and hollow. No creature can display more provident affection for it's young than this; nor is any so savage as to employ similar means for this purpose. The manner of living is different in the various species, and so is the general form of the body; but the essential qualities appear innate, and inherent in all.

They all agree in being the fiercest of the fly kind; for they will attack insects much larger than themselves. Their strength indeed is great; their jaws are hard and sharp; and their stings are armed with a poison which suddenly proves fatal to their opponents. The Savage seizes boldly on the creature it attacks, giving a stroke with amazing force, and then falling off to rest from the fatigue of the exertion, and to enjoy the victory: however, it keeps a steady eye on the object it has struck till it dies; and then drags it to it's nest, for the use of it's young.

The number of insects which this creature destroys is almost beyond conception; fifty scarcely serve for a single meal; and the mangled remains about the mouth of it's retreat sufficiently betray the sanguinary inhabitant.—The following are the two most curious species.

**SAVAGE, COMB FOOTED;** the SpheX Pectinipes of Linnaeus. The antlers of this species are composed of oval joints; the fore-feet are formed like combs; and the body is closely united to the trunk. The head is of a chestnut colour; the eyes are blue; the antennæ are brown; the trunk is black and rough; and the scutcheon is grey. The body is smooth and shining, of a rusty iron colour, with bands of an orange yellow; the legs are of a blue grey; the wings are of a pale brown; and the sting, when protruded, is of a fine polished brown.

This insect lives in caverns of the earth, in the sides of hills and cliffs, and in the mud walls of houses. It lays it's eggs in it's cavern; and after bringing a sufficient flock of slaughtered insects to the spot for the support of it's young when hatched, leaves them to their fate.

**SAVAGE, TURNER;** the SpheX Spirifex of Linnaeus. The body of this insect is united to the trunk by a long small thread; the antlers are composed of ten joints; and the feet are jointed and hairy, each being furnished with two toes. The head is of a chestnut brown colour, with a tinge of blue; the eyes are black and large; the

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feelers are blackish; and the antlers are of a ruddy brown hue. The trunk is of the colour of the antlers; the scutcheon is yellow; and the thread which unites the two parts together is likewise of the same hue. The body is ferruginous; the legs are partly brown, and partly yellow; the wings are of a dusky brown hue; and the sting is yellow.

This creature forms a close spiral retreat for itself in some mud wall; at the mouth of which it commonly watches for it's prey. The havoc it makes among insects is really incredible; and part of it's history is strangely replete with horror. It lays it's eggs in the back of a living caterpillar; which hatching, eat that creature up even while itself is feeding.

**SAVANNAH BIRD.** A small American bird, about four inches long, and seven broad; with a short, thick, sharp bill. The top of the head, together with the upper part of the neck and back, are of a dark brown colour mixed with whitish and ruddy-coloured plumage; the lower part of the neck and the breast are of a lighter brown, tending to the colour of ochre; the belly is white; and the feet are also whitish.

This bird never perches on trees, but sits on the ground like a lark.

**SAUEL.** A Portuguese appellation for a species of fish frequently caught on the coasts of China, called by the natives Xiyu. During the months of April and May, vast numbers of them are taken in the river Kiang, near Nankin; when one of the most honourable of the Emperor's eunuchs takes care to have several vessels laden with them, which being put into the ships alive, are buried as it were in ice provided for that purpose; and in this manner preserved for the summer provision of the court.

**SAVELIN.** A truttaceous fish of the umbla or umbra kind, caught in the Danube and some other large rivers. The back is black; the sides are marked with yellow spots; the scales are very small; and on the head there is a very remarkable series of spotted lines, running into a singular figure, surrounding the eyes, and afterwards reaching to the angle of the gills.

This fish is commonly about one foot long; sometimes weighs from six to eight pounds; and is much esteemed for it's fine flavour.

**SAURUS.** An appellation given by some ichthyologists to the lacertus or longer gar-fish; called aguglia imperiale by the Italians, and gir-rock by English fishermen.

SAURUS is also used by Salvian and some other writers to signify a fish of the cuculus kind, resembling the mackerel both in figure and taste, and more usually stiled the trachurus.

**SAW FISH;** the Squalus Pristis of Linnaeus. A fish which receives it's English name from the figure of it's snout, resembling a large toothed saw. According to the Artedian system, it is a species of squalus; and is distinguished from the other species of the same genus by the appellation of the squalus with a long, pointed, and flatted snout, dentated on each side.

From it's prodigious magnitude, this fish has been accounted, though improperly, a species of whale; for it is in reality of the same genus with the galenus or hound-fish. The back is ash-coloured, and the belly is white. The head is coniform, and pointed, the mouth is placed far below the end of the snout, and in the upper part of the



the head, as in the *zygæna*; and the lips are rough and sharp like a file, which supply the place of teeth. The head is terminated by a long flat bony substance, furnished with jaggs or points on each side, like the deep teeth of a saw; of which there are from twenty to thirty on each side. This substance is sometimes five feet long.

The Saw Fish, which is a native of the Atlantic Ocean, has a round body, gradually lessening towards the tail.

**SAW-FLY.** A genus of two-winged flies, whose mouth is formed of saws; the wings lie plain; the scutcheon has two small, distant, elevated points, on it's hinder part; and the weapon at the tail, which is short, is formed of two plates jagged like a saw, and hollowed longitudinally in the female, but plain in the male.

**SAW-FLY, MOURNING;** the *Tenthredo Lucifusa* of Hill. The antlers of this species have seven joints; the head and trunk are red; and the body is black. The eyes are blue; the feelers are short and pale; and the scutcheon is of a deep red colour, the points which appear on it being blue. The legs are grey, and furnished with two claws; the wings are of a pale yellowish brown colour, with little yellow prominences on the ribs, and an edge of deeper yellow; the tail is of a deep brown hue; and the sting or saw, which is flatted and thin, is of a chefnut brown.

This is the *Tenthredo Alai* of Linnæus; a pretty, quiet, melancholy fly, found among alder plantations; and often fatally entangled in the clammy juice that issues from their leaves. It originates from a yellow worm with a black head, and twenty minute feet. During the winter, it lies buried in the earth, where it undergoes it's transformations; and comes abroad in May in it's full perfection and beauty.

**SAW-FLY, MOTTLED;** the *Tenthredo Variegata* of Hill, and *Sylvatica* of Linnæus. This singular and delicate fly frequents damp woods and moors during the months of August and September. The head is of a shining blue colour; the eyes are green; the antlers are amber-coloured, and composed of more than twenty joints; the feelers are short and brown; and the jaws are of a yellow brown hue. The trunk is iron grey, mottled with irregular spots of gold; the scutcheon is entirely raven grey, with black points; the body is of a deep black colour above, and raven grey below; the legs are of a fine vivid yellow, with black claws; the wings are brown, with dusky edges, and the tail is amber coloured.

This creature generally lives in bushes, feeding on their juices and sap; and when the female lays her eggs, an acid mucilaginous juice flows out with them, which perverts the course of the sap in the plant, and occasions a kind of gill.

**SAYACUL.** A Brazillan bird, about the size of a crow, and of a bluish grey colour; it's back and wings are of the most vivid blue; and it's eyes and beak are black.

**SAYAN.** An appellation by which some authors express that species of the swallow whose nest is so famous as an ingredient in drugs.

**SCAD,** the *Scoræna Fraxinus* of Linnæus. This fish, which is of the bottom and perch, is about fifteen inches long; the body is sharp, the eyes are large, the scales are silver; the lower jaw is somewhat longer than the upper, and the edges of both are rough, but destitute of teeth. A large black spot appears on the covers of the

gills; the scales are large and thin; and the lower half of the body is quadrangular, and marked on each side with a row of thick strong scales extending to the tail. The first dorsal fin consists of eight strong spines; the second, which rises exactly behind it, is composed of thirty-four soft rays, and reaches almost to the tail; the pectoral fins, which are long and narrow, consist of twenty rays; and the ventral contain six branchiole rays. The vent is situated in the middle of the belly; and the tail is much forked. The head and upper part of the body are varied with blue and green; and the belly is silvery. The flesh, which is firm and well-tasted, has the flavour of mackerel.

**SCALLOP.** A genus of shell fish, whose animal is a tethys, growing to a large size; and which is dredged up, pickled and barrelled for sale. The shell is bivalve, one of the shutters being concave, the other plane or flat. The hinge is slightly bent from the concave shell, and thence carried over a part of the plain shell; and in the middle, as well as in the intermediate space, it is firmly connected to a cartilage. In the centre of the hinge is placed another short, black, and very strong instrument of a similar kind.

Hence we may perceive to what that remarkable power this animal possesses of opening and shutting it's shell is to be ascribed; and it is very possible that, by the assistance of such a very strong apparatus of tendons or ligaments, it may be enabled to move the plane shell in so swift and regular, and at the same time so forcible a manner, as to forward it's progressive motion; and probably it may supply the place of a wing to beat against the water, as the pinion of a bird against the air. Thus, what the ancients have so frequently said of this creature's moving so rapidly from one place to another, may be literally true; though modern observers have failed to remark this peculiarity in the like full extent with those of antiquity. See *PECTEN*.

**SCARABÆUS,** the Beetle. An extremely numerous class of insects, belonging to the order of coleoptera in the Linnaean system, distinguished by clavated and fissile antennæ, and by having the fore-legs generally dentated. Linnæus distributes them into such as have a horned thorax; those having an unarmed thorax, and a horned head; and such as have feet without claws, with an unarmed head and thorax. This great naturalist enumerates eighty seven different species.

In order to give a distinct idea of the difference of the species, Lister arranges them into a kind of method. The first general distinction is into those which live on the land, and such as live in the water, of each of which there is a large number. Those Beetles which inhabit the land, sometimes have their antennæ laminated at the end, others have them sharp-pointed. In some the edges of the wings are perfect, in others, they appear mutilated. Some have the antennæ inserted into a kind of promontory, and these are called by the ancients *gurguliones*, in others, there is only one puncture of this member in the middle. In some, there are several near the extremity, others have a sharp-pointed instrument at the head, and are denominated *cinices*. For a description of the most curious scarabæi, see *BEETLE*.

**SCARABÆUS** is also an appellation by which some ichthyologists express that species of fish called otherwise the cantharus.

**SCARI CROW.**



## SCA

**SCARE-CROW.** A bird of the *larus* or sea-gull kind; called by ornithologists *larus niger*, and by Linnæus *Sterna Fissipes*. This bird, which is equal in size to the blackbird, has very long wings; the head, neck, breast, and belly, as far as the vent, are black; and, beyond it, white. The male has a white spot under it's chin; the back and wings are of a deep ash-colour; the tail is short and forked; and the legs are short and red. It's flesh is reckoned wholesome food.

These birds frequent fresh waters, breeding on the banks of rivers, and laying three small eggs of a deep olive-colour spotted with black. During the spring and summer they are very numerous in the fens of Lincolnshire, where they make an incessant noise; and birds of this species are also sometimes observed at a considerable distance from land.

**SCARLET GRAIN.** An appellation by which some authors express the kermes; but more commonly restrained to an animal found in Poland, about the size of a pepper-corn, and of a roundish shape. It's colour is a deep purple, tinged with blue; it sticks to the root of the tree on which it feeds; and, when gathered for use, is found in a rough cup, somewhat resembling that of an acorn.

These grains appear to be excrescences on the root where they produce their young; which at first are evidently real insects, having small longish flattened bodies consisting of several segments, six short slender legs, and two feelers. These are of a lighter purple than the parent from which they spring. When they have acquired their full size, they fix themselves to the root of the plant where they remain. The male is a two-winged fly.

**SCARUS.** A marine fish, a species of the labrus in the Linnæan system; respecting which several remarkable things have been asserted by the ancients, such as it's possessing the quality of rumination like oxen. This Aristotle, Pliny, Oppian, and others, affirm; but none of them from their own personal knowledge; they seem only to have gathered it from hearsay, or else to have borrowed it from each other.

It has also been alledged, that this is the only fish which feeds on herbs; and it has likewise been thought that this is the only one which ever sleeps. But all these attributes are either exaggerated, or totally destitute of truth; for the *Scarus* possesses few singularities which are not common to other fish.

The modern ichthyologists have described three species of this fish; the *Scarus Onias*, the *Scarus Varius*, and the *Scarus Bellonii*. The two former were mentioned by Rondeletius; but the latter was noticed by Bellonius, and seems to have been the very fish which the ancients knew by this appellation.

The *Scarus Onias* is a marine fish, found among rocks, and near the shores: it's scales are large, and very thin; it's back is of a blackish blue colour; it's belly is of a fine white, and an oblong and rounded shape; it's teeth are broad, somewhat resembling the human; it's eyes are large; and it's head over the eyes is of a fine strong and clear blue colour.

The *Scarus Varius* is of the shape and proportion of the former; but it's eye and belly are of a purple colour. It's tail is of a fine clear and strong blue; and the rest of the body is of a purplish or bluish black. The scales are spotted and

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speckled with dusky spots. The teeth are broad in the upper jaw, and somewhat pointed in the lower; from the head to the tail, along the ridge of the back, runs a row of short spines, connected at their bottoms by a membrane; and in the middle of the belly there are several purple spots.

The *Scarus Bellonii* differs from both these. It's colour is a mixture of blueish and red; it's scales are broad and thin; and it has two transverse protuberances near the sides of the tail. The body is rounded, and moderately long; the teeth are strong, obtuse, and well adapted for their office, which is that of tearing off the rough seaweeds from the rocks, and chewing them for food; and the dorsal fin is single and prickly.

This fish is esteemed peculiarly delicate when eaten with the entrails and their contents; but otherwise, it is insipid. The Grecian epicures formed a luxurious dish of the liver and stomach, disregarding the rest of the body.

**SCAULEZ.** An appellation sometimes given to a Mediterranean fish, called also *hepsetus* and *anguella*.

**SCAUP DUCK;** the *Anas Marila* of Linnæus. A bird of the duck kind, varying considerably in it's colours; so that, in a flock of forty or fifty, perhaps two exactly similar cannot be found. Willughby informs us, that this species receives it's name from it's feeding on scaup, or broken shell fish. See *Duck*.

**SCARONE.** A term by which Salvian and some others express the pickled dog-fish, or hound; the *Galeus Spinax* of the Latinists. It is a species of *squalus*, distinguished by the roundness of it's body, and by having no pinna ani.

**SCELAZIUS.** An appellation given by Dr. Hill to a genus of animalcules with visible legs. These creatures are common in ditch-water; and their motions are considerably slower than those of other animals of the same kind.

**SCHÆNICLOS.** A bird described by Bellonius, which seems to be the same with the sea-lark or flin.

**SCHAFHELT.** A name given by some ornithologists to a very small owl, the *noctua minor* of authors in general; a bird not larger than the thrush, with bright yellow coloured eyes, large ears, and feet feathered down to the toes. It is a native of the forests of Germany.

**SCHIBAT.** An appellation by which some authors express the gentling; a fish of the chub kind, caught in the Danube and other large rivers of Germany; and called by Gefner and Aldrovandus the *Capito Cæruleus*.

Artedi distinguishes it by the name of the *Silurus* with four beards at the mouth. This is the essential character in which it differs from the lake, another fish of this kind, with only one beard.

**SCHIELENF.** A species of duck which frequents the coast, about the size of the common brook, and taken from the capo rosso in being near the river, as also in having yellow sides, none of the general colours corresponding.

**SCHIELENT.** A provincial appellation for the fish commonly called the sea-bream. It is the *labrus maximus* of the ichthyologists, and is called *labrus* by the French, and some other places; *sea-bream* by the English, and some other places.

**SCHIEUS.** A name by which some ichthyologists express the mucroptera, or pike-fish. See *Pike*.

SCHOMBURGER.



**SCHOMBURGER**; the *Oriolus Melancholicus* of Linnæus. This bird, which was first described by Edwards, is a native of the Spanish West Indies. The bill, which is pretty long and thick, is of a dusky flesh-colour; the eyes are hazel; and the sides of the head and throat, for a small space above the bill, are black; which colour extends downwards on each side of the neck almost to the rise of the wings. The top of the head, the upper side of the neck, the back, and coverts of the wings, are brown, spotted with black; and the quill-feathers of the wings and tail are dusky, edged with a bright reddish brown. The whole under-side, from the throat to the coverts beneath the tail, is of a lively light reddish brown colour; the breast and belly are spotted with black, the whole plumage being black in the middle, and brown round the borders. The legs and feet are of a reddish flesh-colour; and the claws are brown, the hind claw being unusually long.

**SCIIRAITSER**. A Danubian fish, bearing a strong resemblance to the ruff, or small gilded perch. It is commonly about three inches long; the tail is bifid; the dorsal fin is composed of thirty rays, eighteen of which are rigid and prickly, the remainder being soft and flexible; the upper jaw has a membrane somewhat like a lip depending from it; and the covertures of the gills terminate in a spine or prickle. The membrane of the back-fin is variegated with black spots. Its general colour is paler than that of the perch; and its flesh is much esteemed.

**SCIÆNA**. A distinct genus of fishes in the Linnæan distribution, of the general order of thoracici: the characters of which are; that the opercula of the gills are scaly; and that there are six branchiostegous rays, and a groove in the back to receive the dorsal fin. The umbra constitutes one species of this genus.

According to Artedi, the characters of this genus are the following. The whole head and covertures of the gills are scaly; and one of the laminae of these coverings is serrated at the edge. The body is compressed and broad; the back is acute; the teeth are arranged only in the jaws and fauces, the palate and tongue being bare; there is only one fin on the back, but it is bifid, and so deeply divided at the middle, that it seems to form two; the tail is not forked, but even at the extremity; and the appendices of the pylorus are seven or eight in number. Five species of this genus are found in the Mediterranean.

The word *Sciæna* is of Greek origin, and derived from *Skia*, Umbra. The genus receives its name from the dusky, shadowy colour of its body.

**SCINCUS**, the Skink. A species of lizard, called also the land crocodile, and well known by the faculty as an ingredient in several compositions. It resembles the smaller species of lizards, being seldom more than six inches in length. The colour is a silvery grey; the body is covered with scales; the tail is rounded; the head is of an oblong figure; the nose is sharp, and the feet appear as if alated, having five toes each, armed with very sharp claws. This creature is common in Egypt and Arabia.

The dried flesh of the *Scincus* is strongly recommended as a substitute for that of *Vipers*, possessing all its virtues in the most exalted degree. It is esteemed diuretic, alexipharmic, and restorative, as well as powerfully provocative. The Egyptians cut the flesh to pieces, and boil it

down to a strong broth or jelly; in which form it may have some efficacy, though its virtues seem to be greatly exaggerated.

**SCNIPS**. An appellation by which some naturalists express a small species of gnat commonly found on the oak-tree, feeding on the juices of its leaves, which it sucks by the application of its sharp trunk. This insect is supposed to originate from the small oblong white worm which lodges in the oak-apple.

**SCOLOPAX**. A genus of grallæ in the Linnæan system: the characters of which are; that the beak is roundish, obtuse at the end, and longer than the head; that the nostrils are linear; that the face is covered with feathers; and that the feet are furnished with four toes, the hinder one consisting of several joints.

Linnæus enumerates eighteen species; among which are placed the curlew, whimbrel, snipe, godwit, and woodcock.

**SCOLOPAX** is also an appellation by which some authors express the trumpet-fish.

**SCOLOPENDRA**. An insect with a long slender body, very smooth, of a yellowish or reddish colour, furnished with a vast number of legs, and having two long antennæ and a bifid tail.

In the Linnæan system, the *Scolopendra* is a genus of the order of aptera: the characters of which are; that the animal has as many feet on each side as the body contains segments; that the antennæ are setaceous; that it has two articulated palpi; and that the body is depressed. Linnæus enumerates eleven species.

From the Philosophical Transactions we learn that there is a species of this animal which naturally shines in the dark, after the manner of a glow-worm, but with a fainter and more general light. Every part of the body of this insect will emit sparks in the dark, if pressed. It is covered with a soft down, or short fine hair; among which a vast number of long sharp prickles are interspersed, about the same length as the hair, but as stiff as the bristles of a hog, sharp-pointed, and black. The tail, or smaller end, terminates in two bright scales on the back, and in this the anus is situated. It has neither horns, eyes, nor any other organ common to the heads of the insect tribes. The mouth is wide, and situated under the belly part, which is smooth, flat, and irregularly marked with brown spots. The legs are placed in two rows, the whole length of the body, those nearest the mouth are the longest, and the shortest are near the tail. The whole number of legs is seventy-two, thirty-six on each side. A cluster of three or four prickles passes from within the body through the middle of each leg; and these are larger or smaller according to the size of the leg. On each side of the upper, or back part of the animal, there are a number of soft, flat, smooth fins; which face the legs in such a manner, that each foot has its corresponding fin: these assist the creature in swimming, as the legs are adapted for crawling.

On opening the body of this insect, a muscular organization presents itself to view, elegantly contrived for giving play to such a large number of legs and fins. This appears in form of one large and broad red muscular congeries; and from it thirty-six pair of rays are propagated on each side, every pair serving for the motion of one leg and one fin: these are distinctly visible, and represent the spine and ribs in some fish.

**SCOLOPENDRA MARINA**. A remarkable



able insect of the Scolopendra-kind found in the Irish seas, and appearing to be synonymous with the *vermis aureus*, or *crucæ marinæ species rarior* of *Oligerus Jacobæus*.

Peyssonel describes a small marine Scolopendra, of a square figure, whose body and head were composed of eighty rings, and which possessed the singular faculty of occasionally ejecting its intestines. The four sides of this insect were armed with prickles, of which every ring had four fasciculi; and these were sometimes spread out like a fan.

These insects, when placed on the fingers, thrust a vast number of their prickles into the skin, and excite a sharp kind of pain, similar to that occasioned by fire.

**SCOLOPENDRA SCUTATA.** An animal of the insect kind, about one inch and a half long, and somewhat less than an inch broad; resembling, in many of its parts, the Molucca crab, sometimes called the buckler-crab. When the back is examined, it is found to be covered with a case or shield, remarkably gibbous or prominent, along the middle, with a triangular opening in the shell near the tail. On the head there are two short horns, standing in the common place of the antennæ. When the case or shell is removed, the rings on the body are discovered to be about thirty in number. There are forty-two legs on each side; the first twenty being nearly of the same size, and the rest gradually diminishing. Each of the feet contains five membranaceous claws: these are flat, with a stiff rib in the middle; and are beset in that part with hairs, like the legs of a crab. The whole structure of the legs seems to be better adapted for swimming than walking.

This species was first observed by Klein, in those places of Prussia where cray-fish are caught. It has likewise been found in Kent; where a pond that was dry at Midsummer, having been filled by means of a heavy thunder-shower, was covered in a few days with these insects, notwithstanding there appeared no visible means by which they were or could be produced.

**SCOMBER.** In the Linnæan system, a distinct genus of the thoracic order of fishes: the characters of which are; that the head is compressed; and that there are seven branchiostegous rays, and several small fins between the dorsal fin and the tail. The species of this genus are, the Scomber, or mackerel; the pelamys, thynnus, cordyla, glaucus, trachurus, hippos, chrysurus, amia, and pelagicus.

According to Artedi, the characters of this genus are: the branchiostege membrane on each side contains seven slender bones, the upper one of which is nearly hid by the coverings of the gills; the tail is very forked, and shaped like a crescent; there are one or more eminences on each side towards the tail; the fins are either only two on the back, or, exclusive of these, several small and short ones running as far as the tail, on the under as well as the upper part of the body; and the appendices to the pylorus are very numerous. The species of this genus are four; the common mackerel, the tunny-fish, the horse-mackerel, and the glaucus primus of Willughby and Rondeletius.

**SCORPIOIDES.** A fish of the gottorugine kind, but differing in colour, being of a faint green, variegated with black spots; and either

wanting the eye-fins entirely, or having them extremely minute. See *GOTTORUGINE*.

**SCORPION.** A genus of reptiles of the order of aptera: the characters of which are; that there are eight legs, and a pair of claws at the head; eight eyes, three on each side of the thorax, and two in the back; two claw-like feelers; a long jointed tail, terminated by a bent, pointed weapon; and two pectines or combs between the breast and abdomen. Linnæus enumerates six species.

The Scorpion is one of the largest of the reptile tribes, and not less terrible on account of its size than its malignity. It somewhat resembles the lobster in shape, but is infinitely more hideous. The different species are chiefly distinguished by their colour, size, and local circumstances: some are yellow, brown, and ash-coloured; others ferruginous, green, pale yellow, black, claret-coloured, white, and grey.

In this animal four principal parts are distinguishable; the head, the breast, the belly, and the tail. The head appears as if jointed to the breast; in the middle of which are seen two eyes, and a little farther forward two more eyes, placed in the fore-part of the head: these eyes are so minute, that they are scarcely perceptible; and it is probable that the animal has but little occasion for the faculty of sight. The mouth is furnished with two jaws; the undermost is divided, and the parts are notched into each other, serving instead of teeth to comminute the Scorpion's food; and these it can so withdraw into its mouth, as that no part of them is to be seen. On each side of the head are two arms, each composed of four joints; the last of which is large, with strong muscles, and constructed in the manner of a lobster's claw. Below the breast there are eight articulated legs, each divided into six joints; the two hindmost of which are each provided with two crooked claws, and here and there interspersed with hair. The belly is divided into seven little rings; from the lowest of which a tail rises, composed of six joints, bristly, formed like small globes, and the last armed with a crooked sting. This is that instrument which renders the Scorpion so formidable: it is long, pointed, hard, hollow, and pierced near the base with two small holes, through which, when the animal stings, it ejects a drop of poison, white, caustic, and sometimes fatal. The reservoir wherein this poison is lodged, is a small bladder near the tail, in which the venom is distilled by a peculiar apparatus: if this bladder be gently pressed, the poison will be seen to issue out through the two holes already mentioned; so that it appears that, when the animal stings, the bladder is pressed, and the venom issues through the two apertures into the wound.

Few animals are more formidable, or more truly mischievous, than Scorpions. As they easily find shelter, and generally lurk in houses, they of course frequently assault the inhabitants. In some towns of Italy, France, and the province of Languedoc, they prove one of the greatest pests of mankind. But their malignity in Europe is but trifling when compared to what the natives of Africa and the East are known to experience from them. In Batavia, where they grow to the length of twelve inches, there is no removing any piece of furniture without the utmost danger of being stung by them. Bosman assures us, that along the Gold Coast they are often found as large as lobsters,



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lobsters; and that their stings are inevitably fatal. In Europe, however, they are by no means so large, so venomous, or so numerous. The general size of this animal is from two to three inches; and it's sting very seldom proves fatal; though it's bite, as well as it's presence, are highly disagreeable. Maupertuis, who made several experiments on the serpents of Languedoc, found them by no means so invariably dangerous as had till then been represented. He provoked one of them to sting a dog in three places of the belly, where the animal was destitute of hair: in about an hour after, the poor creature became greatly swollen, and very sick; he then vomited plentifully; and for nearly three hours continued throwing up a whitish liquid. The belly was always much dilated when the animal began to vomit; but this operation seemed always to abate the swelling. After the expiration of the above time, the poor dog fell into convulsions, bit the ground, dragged himself along on his fore-feet, and at last died, five hours after being bitten. He was not partially swollen round the wound, as is usual after the sting of a wasp or bee; but his whole body was inflated, and there appeared only one red spot on those parts which had been stung.

Some days afterwards the same experiment was tried on another dog, and even with more aggravated cruelty; yet the creature seemed but little affected by the wounds, only howling as he received them, and afterwards appearing as alert and healthful as before. So far was this animal from being terrified at the experiment, that he cheerfully left his own master's house, to visit that of the philosopher, where he had been more sumptuously entertained. The same trial was made, with fresh Scorpions, on seven other dogs; and likewise on three hens; but not the smallest deadly symptom was found to ensue. From hence it appears, that many unknown circumstances must conspire to give efficacy to the poison of the Scorpion: and whether it's food, long-fasting, the season, the nature of the vessels it wounds, or it's state of maturity, encrease or retard it's malignity, is yet to be ascertained by succeeding experiments.

In the trials made by Maupertuis, he employed Scorpions of both sexes, newly caught, and seemingly active and vigorous. The success of this experiment may serve to shew, that many of those boasted antidotes which are used for the cure of the Scorpion's sting, owe their celebrity rather to the tardiness of the poison than their own efficacy: they only happened to cure when perhaps the sting was no ways dangerous; but, in cases of actual malignity, they might probably have proved ineffectual.

However, the Scorpion of the tropical climates being much larger than the European, is unquestionably much more venomous. Yet Hebigius, who resided some years in the East, assures us, that he was often stung by the Scorpion, and never felt any material inconvenience from the wound: a painful tumour generally ensued; which was always removed by rubbing the part affected with a piece of iron or stone till the flesh became insensible. Seba, Moore, and Bosman, nevertheless, give a very different relation of the Scorpion's malignity; and assert, that unless immediate applications take place, the wound becomes fatal.

Certain it is, that no animals whatever are apparently more irascible in their natures than Scor-

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pions: they will even attempt to sting a cudgel when placed near them; and a mouse or a frog, though altogether unoffending, is sure to experience the effects of their vengeance. Maupertuis put three Scorpions and one mouse into a vessel, and they soon stung the little animal in different places. The mouse, thus assaulted, stood for some time on the defensive; and at last killed them all, one after another. This experiment he made in order to know whether the mouse, after it had killed, would eat the Scorpions; but the little quadruped seemed fully satisfied with the victory, and even survived the severity of the wounds it had received.

Wolkamer tried the courage of the Scorpion against that of the large spider, inclosing several of both kinds in glass vessels. The success of this combat was very remarkable: the spider at first used every effort to envelope the Scorpion in it's web; but the latter rescued itself from the impending danger by stinging it's adversary to death. Soon after, it cut off with it's claws all the legs of the spider, and then sucked the internal parts at leisure. Wolkamer, however, is of opinion, that if the Scorpion's skin had not been so very hard, the spider would have obtained the victory; for he had often seen one destroy a toad.

But if the fierce spirit of these reptiles urges them to attack other creatures, it renders them equally dangerous to their own species. Maupertuis put one hundred of them into the same glass; and they scarcely came into contact before they began to exert all their rage in mutual destruction: there was nothing to be seen but universal carnage, without any distinction of age or sex; so that, in a very few days, there remained only fourteen, which had killed and devoured all the rest.

Their unnatural malignity is still more apparent in their cruelty to their offspring. The above philosopher enclosed a female Scorpion, big with young, in a glass vessel; and she was observed to devour them as fast as they were excluded: only one of the number escaped the general destruction, by taking refuge on the back of it's parent; and this soon after revenged the death of it's brethren by killing the old one in it's turn.

Such is the unrelenting nature of this reptile, which neither the bonds of society nor of nature can reclaim. Some even assert that, when driven to extremity, it will often destroy itself. Maupertuis actually tried the subsequent experiment. A Scorpion, immediately after being caught, was placed in a circle of burning charcoal, and thus an egress totally prevented: the animal ran for a short time round the circle, in hopes of escaping; but finding that impracticable, stung itself on the back of the head, and instantly expired.

Fortunately for mankind, these creatures are thus destructive to each other; since otherwise they would multiply in such a degree as to render some countries uninhabitable. The male and female Scorpions are easily distinguished; the male being smaller than the female, and less ferocious. The female brings forth her young alive, and perfect in their kind. Redi, having purchased a quantity of serpents, selected the females, which he put into glass vessels, where he kept them for several days without food. In five days time, one of them brought forth thirty-eight young, well shaped, and of a milk-white colour, which changed every day more and more into a dark



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dark rusty hue. Another female, in a different vessel, brought forth twenty-seven of the same colour; and the day following, all the young ones seemed fixed to the back and belly of the female. For almost a fortnight, they all continued alive and well; but afterwards, some of them died daily; and, in a month's time, only two of the whole number survived.

These animals may be kept alive with little trouble by such as are curious of contemplating hideous deformity. Their chief food is worms and insects; with a proper supply of which their lives might probably be lengthened to their natural extent: how long that may be, perhaps none have had the patience to ascertain with precision; but, if we may argue from analogy, it cannot be less than seven or eight years; and, with respect to the larger species, peradventure double that period. As their figure is somewhat like that of a lobster, so they resemble that animal in casting their shell, or, more properly, their skin; since it is infinitely softer than the covering of the lobster, and beset with hairs, which proceed from it in great abundance, particularly at the joints. The young lie in the womb of the parent, each covered up in it's own membrane, to the number of forty or fifty; and united to each other by an oblong thread, exhibiting collectively the form of a chaplet.

Such is the manner in which the common Scorpion generates it's young. But there is an American Scorpion, produced from the egg, like the spider kind: these eggs are about the size of a moderate pin's head; and are deposited in a web, which the female spins from her body, and carries about with her till the whole are hatched. As soon as the young are excluded from the shell, they ascend the back of their parent, who turns her tail over, and defends them by means of her sting.

**SCORPION FLY.** An appellation by which Mousset and some other naturalists express a kind of fly remarkable for carrying the end of it's tail turned up in the form of a Scorpion's sting. The distinguishing characters of this insect are: it's rostrum or trunk is of a cylindric figure, and a horny structure; and it's tail is furnished with a weapon of the chiliform kind.

There are two beautiful species of this insect. The one has silvery wings, variegated with three transverse streaks of black towards the ends; the head is black; the breast, shoulders, and feet, are whitish; and the rest of the body is black. The tail, which represents a sting, has five joints, three of which are red, the other two black; and the extremity of the tail is forked, and reverted like the sting of a scorpion.

The other species in many respects resembles the preceding; but the end of the tail is thicker, and the forks are more blunt. The head also is dunnish; the mouth is long, and each wing is variegated with six large-sized black spots.

**SCORPION, SEA.** A name by which some ichthyologists express the *Cottus Scorpius* of Linnæus, in English, the fatherlasher.

**SCORPION, WATER.** A singular species of water-insect, living among the weeds in stagnant waters, and continually watching for it's prey. It is nearly one inch in length, and about half an inch in breadth. The body is nearly oval, but very flat and thin; and the tail is long and pointed. The head is small, and the feelers

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resemble the claws of a scorpion, except in being destitute of sharp points. The eyes are small, but prominent, and very hard and black; the shoulders are broad and flat, wrinkled on the surface, and of a pale brown colour, as is also the head; the body, which is of a bright red lead-colour on the back, and a faint dusky brown on the belly, is composed of six joints, covered with a sort of scales; the exterior wings are hard and firm, and of a dark dull brown hue; and the inner wings are of a dusky white, varied with a red lead-colour. The tail, which is long and straight, consists of two slender bristles of a pale brown hue.

These insects, which are extremely tyrannical and rapacious, destroy twenty times as much as their appetites require. One of them, when put into a basin of water, in which were thirty or forty worms of the libellula kind, each as large as itself, destroyed them all in a few minutes, by mounting on their backs, and piercing their bodies with it's trunk. But though these creatures are formidable to others, they are nevertheless themselves greatly over-run with a kind of small lice, which probably repay the injuries which these tyrants inflict on other insects.

Water-Scorpions live in that element during the day; but ascend into the air at even-tide; and so flying from place to place, often betake themselves to distant waters in search of food.

Until this insect assumes it's wings, it remains in the same place where it was produced; but, when arrived at a state of perfection, it sallies forth in search of a companion of the other sex, and soon begets an useless generation.

**SCOTER.** A species of duck, the *anas niger* of ornithologists; called also the black diver. This bird is nearly about the size of the common duck; but the body is more round, and entirely of a deep shining and beautiful black colour. It is very common on the shores of Lancashire, and some other counties; lives only in the vicinity of salt waters; and is a very expert diver.

The French give this bird the name of *Macreuse*; and the Church of Rome allows it's flesh to be eaten in Lent.

**SCREAMER;** the *Palamedea* of Linnæus. A genus of grallæ: the characters of which are; that the bill is conic, the upper mandible being hooked; and the feet are cloven, having each four toes. Pennant denominates it the Screamer on account of the violent noise which it makes. There are two species, both natives of South America.

**SCROFANELLO.** A name by which some authors express a small Mediterranean fish more usually denominated scorpena.

**SCULION.** An Aristotelian appellation for the fish called by later ichthyologists *catulus*, and *catulus major*: in England, the bounce.

**SCURFF.** An English name for a species of salmon, more usually denominated the bull-trout. It never grows to any very considerable size; and evidently differs from the common salmon in having it's tail even at the extremity, not bifid; a thick, short head; and flesh much whiter than that of the salmon.

**SCURRA.** A name given by some of the ancient writers to the *monedula*, or common jackdaw.

**SCURVOGLE.** An American bird, called also the whender-ago; and, by the Brazilians, *jabiruguaçu*.



## SEA

**jabiruguacu.** It seems to be of the crane kind, or at least nearly approaching to that class. Linnæus makes it a distinct genus, under the appellation of *mycteria*. The beak is large, long, and acute; both the mandibles bend upwards, the upper one being triangular; the nostrils are linear; and the mouth is destitute of a tongue. The feet are furnished with four toes. The top of the head is adorned with a kind of bony crown, of a mixed greyish and whitish colour; the neck is of considerable length; and both that and the head are destitute of feathers, being covered only with a naked, squamose skin.

This bird is about the size of the stork; and its flesh is esteemed very delicate. It has a short black tail; but the rest of the plumage is white, except that the long wing-feathers are blackish, with a purplish gloss.

**SCUTUM.** A genus of *echini marini*: the characters of which are; that the shell is of an irregular figure, representing a shield on the lower part; and having the shape of a five-leaved flower on the superficies. The mouth is situated in the middle of the base; and the aperture for the anus at the edge.

Two kinds of *echini* belong to this genus, the angular and the oval. There are only two known species of those with angular scuta; but of those with oval there are three.

**SCYLLÆA.** A genus of the mollusca class of worms in the Linnæan system. The characters are these: the body is oblong and compressed; the back longitudinally canaliculated; the mouth is a round opening; and there are three pair of tentacula, like arms, under the body.

There is only one known species, called by some the sea-hare.

**SCYMNUS.** An appellation used by Ælian, Appian, and some other Greek writers, for the Sculion of Aristotle. Artedi makes this a species of *squalus*, distinguished by the pinna ani placed in the middle between the anus and the tail. It is also the *catulus vulgaris* and *catulus major* of authors.

**SCYTALE.** A species of serpent mentioned by the ancients; which they described as long and thin, and of so equal a thickness from the head to the tail, that the latter could not be easily distinguished.

Linnæus mentions two animals under this appellation: one a species of anguis, or snake; and the other a kind of boa.

**SEA-BEAR;** the *Phoca Ursina* of Linnæus; called also the sea-cat; and by Pennant the ursine seal. An animal pretty common round the isles scattered between Kamtschatka and America, where they retire in order to copulate; but at other times seek the Asiatic and American shores. They lead an indolent gregarious life; and are remarkable for their attachment to their young.

**SEA-BREAM.** An English appellation for the fish more generally denominated the pagrus and phagrus. According to the Artedian system, it is a species of *sparus*, distinguished by the name of the red *sparus*, with the skin carried into a sinus at the roots of the dorsal fins and the pinna ani.

**SEA-CALF,** the *Phoca Vitulina* of Linnæus. An appellation commonly given to the seal. See **SEAL.**

**SEA-COW;** the *Trichechus Manatus* of Linnæus. An animal found in various parts of the

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world, in high northern latitudes. Some of them are said to measure twenty feet in length, and to weigh eight thousand pounds. It has thick lips; very small eyes; two small orifices instead of ears; a short neck, thicker than the head; and from the shoulders, the thickest part of the body, the animal grows gradually slender towards the tail, which lies horizontally, being broad and thick in the middle, and thinner towards the edges. The feet are placed at the shoulders. Beneath the shins there are bones for five complete toes; and externally there are three or four nails, flat and rounded. Near the base of each foot of the female there is a teat. The skin is very thick and hard, having a few hairs scattered over it; whence the name of *Trichechus*, composed of *Thrix*, Hair; and *Ichthos*, a Fish. See **MANATUS.**

**SEA-CROW.** A provincial appellation for the bird more usually denominated the pewit.

**SEA-DEVIL;** the *Rana Piscatrix*, or *Lophius Piscatorius* of Linnæus. A remarkable species of fish, of a middle nature between the cartilaginous and bony kinds. It resembles the tadpole in its shape: the head is extremely bulky, and of a circular figure; the aperture of the mouth is unusually large; the back is flat, and of a blueish green colour mottled with a few white spots; in the upper part of the head, at a small distance from the angle of the upper jaw, there are two bristles; and over the upper jaw, on each side, are placed two sharp thorns. The dorsal fin consists of ten rays; in the under part of the body, exactly below the throat, there are two fins, composed of five rays or fingers; and there are two others on the edge of the body, the tips of which, as well as of the tail, are black.

This fish derives its present name from its hideous appearance. See **ANGLER.**

**SEA-DRAGON.** See **DRACO MARINUS.**

**SEA-EAGLE.** A species of the *raia*, with a smooth body, and long serrated spine on a finny tail.

**SEA-EAGLE** is also a name by which some authors express the osprey.

**SEA-FEL.** See **FEL.**

**SEA-EGG.** An appellation by which some naturalists express the roundish centronia, with crooked spines; a genus of the *echinus marinus*.

**SEA-FOX.** An English name for a fish of the *squalus* kind, called also the sea-ape; both which appellations it receives from the extreme length of its tail in proportion to its body.

The old Greek ichthyologists have called this fish *alopæcia*; and later writers, *vulpes marina*, and *simia marina*.

**SEA-GUDGEON.** An English appellation for the fish called also *gobius niger*, and *gobius marinus*. Artedi forms a genus of *gobii*, of which he considers this as a genuine species. See **Goby**, **BLACK.**

**SEA-HARF.** A species of *scyllæa* in the history of insects. See **SCYLLÆA.**

**SEA-HEN.** A name by which some ornithologists express the *lomina*, a web-footed fowl common on the British coasts; called also the guillemot and kiddy.

**SEA-HORSE.** An English appellation for the hippocampus; a species of the *acus*, according to the ancient ichthyologists, but belonging to the *syngnathi* of Artedi.

Many fabulous stories are reported of this amphibious



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phibious animal; such as, it's vomiting fire when enraged, and bleeding itself when distempered. The Romans used to exhibit the Sea Horse in their shews of wild beasts; and the description Pliny gave of it from this source, was all that the world knew of it for several ages.

Skeletons of these animals are frequently found at great depths in the earth, but seldom in a recent state.

SEA-HORSE is also a name sometimes given to the river-horse, or hippopotamus.

SEA-LEECH. See *HIRUDELLA MARINA*.

SEA-LION; the *Phoca Leonina* of Linnæus. A species of seal inhabiting the seas about New Zealand, Juan Fernandez, and New Georgia.

These animals are gregarious; bring forth two young at a time; and are extremely fierce when on the defensive. One of them will sometimes yield a whole butt of oil; and their flesh, which resembles coarse beef, is said to be wholesome. See *SEAL*, *LEONINE*.

SEA-LOUSE. An appellation by which some authors express the Molucca crab.

SEA-LUNGS. An English appellation for a species of medusa.

SEA MAN. A name sometimes used to express that strange creature more usually denominated merman and mermaid. With respect to the existence of this animal, a variety of opinions have been adduced; some contending for it's reality; and others ridiculing the very idea of it's being. The works of nature are often too intricate for our researches; and though credulity be a proof of a weak mind, scepticism is a quality of a bad one. On such subjects therefore it certainly becomes impartial naturalists to state contending arguments; and to leave the decision to time, the surest test of truth. See *MERMAID*.

SEA-MOUSE. An English appellation for the aphrodita.

SEA-OTTER. See *OTTER*.

SEA-OWL. A name by which some naturalists express the lump-fish, the cyclopterus of Artedi.

SEA-PEARCH. See *PEARCH*.

SEA-PHEASANT. An appellation by which some ornithologists express a bird of the duck kind; which differs from all others of that genus, in having two long tail-feathers extending a considerable way beyond the rest, and terminating in a point: hence it has also received the name of the pin-tail duck. See *DUCK*, *PIN-TAIL*.

SEA-PYE. See *PICA MARINA*.

SEA-SCORPION. See *FATHERLASHER*.

SEA-SWALLOW. A name sometimes given to a bird of the *larus* kind; called also *sterna*. It is common on the British coasts.

SEAL. A genus of pinnated quadrupeds, with cutting and two canine teeth in each jaw; five palmated toes on each foot; and a body thick at the shoulders, and tapering towards the tail.

The Seal resembles a quadruped in some respects, and a fish in others. The head is round; and the nose, which is broad, represents that of an otter. It has large whiskers, oblong nostrils, and great black sparkling eyes. The tongue is bifid; and in the upper jaw there are six cutting-teeth, and four in the lower. It has no external ears; but two holes, which answer the same end. The neck is of a moderate length, and well-proportioned. The body is thickest at the junction of the neck, (from whence the animal tapers down to the tail, becoming gradually smaller like a fish) and

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is covered with thick bristly shining hair of various colours, sometimes dusky, at others brindled, and sometimes spotted with white or yellow.

In most of the above particulars the Seal resembles the quadruped kind: but it greatly differs from all of them with respect to it's feet; for, though furnished with the same number of bones as in quadrupeds, they are united to the body in such a singular manner, and so covered with a membrane, that they would rather resemble fins than feet, did not the sharp strong claws with which they are pointed shew their proper analogy. The fore feet, or rather hands, are covered with a thick hairy skin, which, like a fin, assists the creature in swimming; and the hind feet are extended on each side of the short tail, and covered also with a skin; both being almost united at the tail.

The usual length of the common Seal now under consideration is about five or six feet, though some have been known to exceed eight: and, with regard to the formation of it's tongue, it differs from every other quadruped, being forked at the extremity like that of a serpent.

These animals are found in almost every quarter of the globe, but in greatest numbers towards the north and south. They swarm near the Arctic circle, and the lower parts of South America, in both oceans. They are met with in the Caspian Sea: and also in the lakes Aral and Baikal, whose waters are fresh; in the last of which they possess the remarkable peculiarity of being covered with silvery hairs.

Seals generally inhabit the water, and feed on whatever fish they can catch. But though they frequently remain under water for several minutes, they cannot, like the finny tribe, continue there any considerable time; for Seals may be drowned as easily as many terrestrial animals. Being awkwardly formed for going on land, they seldom venture at any great distance from the shore, but usually bask on the rocks; and, when disturbed, plunge immediately to the bottom of the water. The hind feet of the Seal being turned backwards, are consequently entirely useless on the land; and, when the creature moves, it drags itself forward like a reptile, apparently with great pain and exertion: for this purpose it uses it's fore-feet, which, though exceedingly short, enable it to move with so much celerity, that for a short space a man cannot easily overtake it; and it constantly makes towards the sea.

On the shores of the north and icy seas, where the inhabitants are few, and marine animals of all kinds numerous, Seals may be seen basking by thousands on the rocks, and suckling their young. Like other gregarious animals, they keep a sentinel on the watch; and, on the slightest alarm, instantly plunge into the deep.

It is remarkable that Seals generally forsake the sea during storms and tempests; and that, when all other creatures seek a refuge from the fury of the jarring elements, these appear in vast troops sporting along the shore, and apparently enjoying a savage kind of pleasure from the conflict of winds and waves. But probably the sea is at that time too turbulent for their residence, and they come on shore because unable to endure the shock of their more natural element.

Seals are animals of passage, and perhaps the only four-footed ones which migrate from one part of the world to another. Quadrupeds are in general contented with their native plains and forests; seldom wandering far from those situa-



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tions where they were produced, unless compelled by necessity or fear: but Seals frequently shift their habitations, and are seen in myriads directing their course from one continent to another. On the northern coasts of Greenland, they are observed to retire in July, probably in pursuit of food, and to return again in September: but in March they make a second voyage, in order to cast their young; and return about the beginning of June, accompanied by their offspring; observing a certain time and track, like birds of passage. When on these expeditions, vast droves of them are seen making towards the north, taking such parts of the sea as are clearest of ice, and sailing forwards into those quarters where the human species cannot follow them. They are very fat when they leave the coasts; but extremely emaciated at their return.

These animals produce two or three young at a time; which, for some short space, are white and woolly. Autumn is their proper season of parturition: and they suckle their progeny for six or seven weeks, generally in cavernous rocks; after which they take to the sea.

The young Seals are remarkably docile: they recognize and are obedient to the voice of their dams amidst the numerous clamours of the flock; and mutually assist each other in cases of danger or distress. Thus early accustomed to subjection, they continue to live in society, hunt, and herd together; and have a variety of cries by which they encourage or pursue, express apprehension or success. Their voices are said sometimes to resemble the bleatings of a flock of sheep, and at others to imitate the shriller notes of cats. Each Seal has it's own peculiar station along the shore, where, when fatigued with fishing, it reposes undisturbed by the rest. However, their social spirit forsakes them whenever they begin to feel the influences of natural desire: then they fight most desperately; and the victorious male always keeps a watchful eye over those females whom his prowess has secured. Their combats on such occasions are managed with much obstinacy, but yet great fairness; each has his antagonist; and all fight an equal battle, till one of them at length proves triumphant.

The chief part of their food being fish, they are extremely expert in their capture; and generally frequent those situations to which herrings resort in shoals, destroying them by thousands: but, when the herrings retire, the Seals are obliged to hunt after larger fishes, and which are more capable of evading their pursuers. In deep water, however, they are extremely swift, diving with great rapidity; and, while the spectator eyes the spot at which they disappear, they are frequently seen to emerge at the distance of above one hundred yards: the smaller and weaker fish therefore have no other way of escaping their devourers but by darting into the shallows.

Nor are these tyrants of the element in which they chiefly reside destitute of courage even on land, except on those shores where the inhabitants are numerous, and from whom they have experienced frequent molestations. Along the desert coasts, where they seldom meet with any interruption from man, they are bold and intrepid, and even make a desperate resistance; but a slight blow on the snout immediately prostrates them, though they will endure a number of wounds elsewhere with apparent indifference. Where

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they are seldom disturbed, they usually sleep very soundly; and at such intervals the hunters generally surprise them. Those Europeans who frequent the Greenland seas on the business of the whale-fishery, surround them with nets, and destroy them. But the Greenlander adopts a very different method: he paddles away in his little boat; and whenever he observes one of these animals asleep on the side of a rock, darts his lance with unerring aim, and plunges it into the creature's side. The Seal instantly leaps into the sea, and dives to the bottom; but the lance having a bladder affixed to one end, keeps it buoyant, and resists the animal's descent: it therefore rises frequently to the surface of the water, and as often receives a stroke from the Greenlander's oar, till it is at last dispatched.

The Seals of our climate are more vigilant and fearful, seldom suffering the hunter to approach them. They are frequently seen on the rocks of the Cornish coast, basking in the sun; or on those inaccessible cliffs which are left dry by the ebbing of the tide: there they continue alternately raising their heads, in order to obtain the earliest notice of any approaching danger. The most effectual method therefore of destroying them that can be adopted, is to shoot them: but if they happen to escape, they hasten towards the sea, throwing up stones and dirt behind them as they scramble along, at the same time expressing their fears by the most piteous moans; and should they happen to be overtaken, they then make a most vigorous defence with their feet and teeth.

The flesh of Seals is esteemed wholesome, and voyagers often make a hearty meal from it: but these creatures are generally killed for the sake of their skins; and the oil which is drawn from their fat, one young Seal yielding about eight gallons. Their skins are used for waistcoats, covers for trunks, shot-pouches, and many other conveniences. Those of Lake Baikal are disposed of to the Chinese, by whom they are dyed, and sold to the Mongals for facings to their fur-coats.

These animals constitute the principal wealth of the Greenlanders, and supply them with every necessary of life. Their flesh was formerly considered as a dainty at the tables of the great: for, among other extraordinary rarities at a feast provided by Archbishop Neville for King Edward IV. there were twelve Seals and porpoises.

Seals are indeed common on most of the rocky shores of Great Britain and Ireland, especially on the northern coasts; and they also frequent the coasts of Caernarvonshire and Anglesea in Wales. The subsequent extract from a letter of Dr. Borlase, dated in 1763, will farther elucidate their history.

'Seals,' says this ingenious naturalist, 'are seen in the greatest plenty on the shores of Cornwall, in the months of May, June, and July. They are of different sizes, some as large as a moderate cow, and from that downwards to a small calf.

'They feed on most sorts of fish which they can master; and are seen searching for their prey near shore, where the whistling-fish, wraws, and pollocks, resort.

'They are very swift in their proper depth of water; dive like a shot, and rise in a trice at fifty yards distance; so that weaker fishes cannot avoid their tyranny, except in shallow water. A person of the parish of Sennan saw, not long since, a

Seal



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Seal in pursuit of a mullet, that strong and swift fish. The Seal turned it to and fro in deep water, as a greyhound does a hare: the mullet at last found it had no way for escape but by running into shoal water; the Seal pursued; and the former, to get more securely out of danger, threw itself on it's side, by which means it darted into shoaler water than it could have swam in with the depth of it's paunch and fins, and so escaped.

The Seal brings forth her young about the beginning of autumn: and our fishermen have sometimes seen two sucking their dam at the same time, as she stood in the sea in a perpendicular position.

In the act of swimming, their heads are always above water, more so than those of dogs. They generally sleep on rocks surrounded by the sea; and, if disturbed, instantly tumble themselves into the water. They are extremely watchful, seldom sleeping above one minute at a time: they then raise their heads; and, if they hear or see nothing more than ordinary, lie down again; and so on, raising their heads a little and reclining them alternately. Nature seems to have endued them with this precaution, as being unprovided with external ears; and consequently neither hearing quickly, nor from any great distance.

**SEAL, MEDITERRANEAN.** This species, which was first described by Herman, is upwards of eight feet long; and it's greatest circumference is five feet. The head is small; the neck is longer than that of the common Seal; the orifices of the ears are very minute; the hair is short and rude; the colour is dusky, spotted with cinereous; and there is a tawny spot above the navel. The toes on the fore-feet are furnished with nails; but the hind-feet are pinniform, and destitute of nails. When this animal lies on it's back, the skin of it's neck folds like a monk's hood.

This species inhabits the Mediterranean, and has not hitherto been discovered in the ocean.

**SEAL, FALKLAND ISLE.** This animal is about four feet long; it's nose is short, beset with strong black bristles; and it's auricles are short, narrow, and pointed. The upper cutting-teeth are sulcated transversely; the lower in an opposite direction. On each side of the canine teeth there is a lesser or secondary one; and the grinders are conoid, with a small process on each side near the base. The fore-feet are destitute of claws; but beneath the skin there are evident marks of the bones of five toes. The toes of the hind-legs are furnished with four long straight claws, but the skin extending far beyond, gives them a pinniform appearance; and the hair, which is short, is of a cinereous colour tipped with a dirty white.

It is probable that this species also inhabits the seas about Juan Fernandez; for Don Ulloa mentions a kind of Seal which nearly resembles it in size. Small Seals are found from the Falkland Isles round Cape Horn as far as New Zealand, and farther from shore than any other kinds. They are all extremely sportive, dipping up and down like porpoises: they also go on in a progressive course like those fishes; and, when asleep, one fin generally appears above the water.

**SEAL, LEPORINE.** This animal inhabits the White Sea during summer, ascending and descending the rivers in quest of prey. It is also found off Iceland, and from Spitzbergen to the Tchurkinofs.

The fur of this Seal is soft, like that of a hare,

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and of a dirty white colour; the whiskers are so long and thick, that the animal appears as if bearded; the head is long; the upper lip is thick; above are four cutting-teeth, and the same number below; and both the fore and hind feet are furnished with nails.

The usual length of this creature is six feet and a half; and it's greatest circumference is five feet two inches.

**SEAL, GREAT.** This species, to which Buffon gives the name of the great Sea-calf, resembles the common Seal, but grows to the enormous length of twelve feet. We meet with a description of one in the Philosophical Transactions, which was seven feet and a half long, though so young as scarcely to have any teeth; whereas the full growth of the common Seal is about six feet.

This animal, which is considered as the largest of the Seal kind, is found on the coasts of Scotland and the south of Greenland; and it's skin, which is very thick, is cut out into thongs by the Greenlanders for their Seal fishery. Perhaps it is the same with the great Kamtschatkan Seal, called by the Russians lacktach, and which weighs about eight hundred pounds.

**SEAL, HOODED.** This creature has a strong folded skin on it's forehead, which it can at pleasure throw over it's eyes and nose, as a fence from stones and sand in stormy weather; and it's hair is white, with an under-coat of thick black wool, which makes it appear of a fine grey colour. It inhabits the south of Greenland and Newfoundland; and in the last-mentioned country obtains it's present name. It is said that the hunters cannot kill it without first removing the integument on the head.

There is also a variety found in the Greenland seas, having rough bristly hair, intermixed like that of a hog, of a pale brown colour. The natives make garments of it's skin, turning the hairy side inwards.

**SEAL, HARP.** This animal has a pointed head; and a thick body, of a whitish grey colour, with two black crescents on the sides, the horns pointing towards each other; but it does not attain this mark till the fifth year, and before that period changes colour annually, the Greenlanders distinguishing it by different appellations every year. It inhabits Greenland and Newfoundland; and is the most valuable kind. The skin is the best, as well as thickest; it produces the largest quantity of oil; and grows to the length of nine feet.

A variety of this species is found in the Lake Baikal, with yellow hair; and a large chestnut-coloured mark on the hind part of the back, which covers almost a third part of the body.

**SEAL, LITTLE.** This is the little Sea-calf of Buffon. The four middle teeth of the upper jaw are bifurcated; and the two in the middle of the lower jaw are trifurcated. It has only the rudiments of an ear. The hair is soft, smooth, and longer than in the common kind; the colour is dusky on the head and back, and brownish beneath; the webs of the feet extend considerably beyond the toes and nails; and the length of the animal is from two to three feet.

These animals inhabit the seas near the island of Juan Fernandez; and Seal-hunters affirm, that they have often observed a small species of about two feet, or two feet and a half in length, on the coast of Newfoundland. Buffon was certainly imposed



imposed on, when informed, that the specimen he saw in the French king's cabinet was imported from India; Dampier, and many modern voyagers to the East Indies, asserting that they never met with any Seals there.

**SEAL, URSINE;** the *Phoca Marina* of Linnæus. This animal, called also the sea-bear, is usually found as an associate with the manati, and sea-lion, which seem divided between the north-east of Asia and the north-west of America, in the narrow seas between those vast continents. From June to September they inhabit the islands scattered between Kamtschatka and America, for the purpose of generation; and there bring forth their young in perfect security. In September they quit their stations, greatly emaciated; some returning to the Asiatic, and others to the American shores; but, like the sea-otters, are confined to those seas between latitude 50. and 56.

The Ursine Seals, or sea-bears, lead a most indolent life during the three summer months. When they first arrive on those islands, they are extremely fat; but while they remain there, confine themselves for whole weeks to one particular spot, sleeping a great part of the time; eat nothing; and are totally inactive, except that the females suckle their young. They live together in families; each male having a considerable number of females, whom he watches with all the jealousy of an eastern monarch. Though they are assembled by thousands on the shores, each family is separated from the rest. The old male animals, who are either destitute of females, or deserted by them, live apart; and are excessively splenetic, peevish, and quarrelsome. They are remarkably fierce; and so attached to their old haunts, that they will sooner die than relinquish them: and if another animal approaches their station, they are immediately roused from their indolence, and snap at it; when a combat generally ensues. In the conflict, however, they perhaps intrude on another's premises; which instantly exciting his indignation, the discord soon becomes universal.

The more fortunate males are also very easily offended. The principal cause of their disputes is, when another attempts to seduce one of their mistresses, or a young female of the family: this insult infallibly produces a combat; and the conqueror is immediately attended by the whole seraglio, which always defects the vanquished. Sometimes a quarrel arises from their interfering in the disputes of others; and their battles are generally terrible: the wounds they give and receive are very deep, resembling the cuts of a sabre; and, at the conclusion of a fray, they generally plunge into the sea, in order to wash away the blood.

The male is extremely affectionate towards his young; and if any person endeavours to remove his cub, he stands on the defensive, while the female carries it away in her mouth: but, if she should happen to drop it, the male immediately quits the aggressor in order to chastise her, whom he beats against the stones till she is almost ready to expire. On her recovery, she presents herself before the male in the most suppliant posture, falling down submissively at his feet, and bathing them with her tears; while he continues stalking about in the most insulting manner. But if the cub is carried quite off, the male then exhibits every symptom of the most undissembled grief;

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and as the female usually brings forth but one at a time, and never more than two, he is probably on that account more sensibly affected with his loss.

These animals are extremely nimble in the water, swimming at the rate of seven miles an hour: and, when wounded by their enemies, they will sometimes lay hold of the boat; and dragging it along with vast impetuosity, sink it to the bottom.

The male is considerably larger than the female; and the body of each is of a conic form, being very thick before, and tapering to the tail. The length of a large Seal is about eight feet; the greatest circumference about five; and the weight about eight hundred pounds. The nose projects somewhat like that of a pug-dog; the nostrils are oval; the lips are thick; and the whiskers are long and white. When the mouth is closed, the teeth lock into each other: in the upper jaw there are four cutting-teeth, each having two prongs; and on each side there is a small sharp canine tooth bending inwards, with a larger one near it. The grinders, which resemble canine teeth, are six in number, in each jaw; there are four cutting and two canine teeth in the lower jaw; and the whole number is thirty-six. The tongue is bifid; the eyes, which are large and prominent, the animal can cover at pleasure with a fleshy membrane; and the ears, which are small and sharp-pointed, are hairy without, and smooth within. The fore-legs, which are about two feet long, are furnished with toes, covered with a naked skin, so that externally they seem a shapeless mass, and have only the rudiments of nails to five latent toes. The hind-legs, which are about twenty-two inches long, are affixed to the body quite behind, in some degree like those of common Seals; but this animal is capable of bringing them forward, and even uses them on some occasions: these members are about a foot broad, and divided into five toes, each separated by a large web. The tail is scarcely two inches long.

The hair of these animals is long and rough; beneath which there is a soft bay-coloured down: the general colour is black; but the hair of the old ones is tipped with grey; that of the females is cinereous. The flesh of the old males is excessively nauseous, but that of the females resembles lamb; and the young ones, when roasted, are as delicate as sucking-pigs.

Forster informs us, that the very cubs of the Sea-bear, or Ursine Seal, on the island of New Georgia, were so extremely fierce, that they barked at the sailors as they passed along, and even attempted to snap at their legs.

**SEAL, BOTTLE-NOSE;** the *Phoca Leonina* of Linnæus. A name given by Pennant to the sea-lion of Buffon, Dampier, and others.

**SEAL, LEONINE.** An appellation by which Pennant expresses the sea-lion of Cook, Forster, Pernetty, and some others. It differs considerably from the *phoca leonina* or sea-lion of Linnæus. The nose is slightly reverted; the head is large; the whiskers are long and thick; and on the neck and shoulders of the male there is a large mane of coarse, long, waving hair: the rest of the body is covered with a very short, smooth, and glossy coat. The colour is wholly a deep brown. Those of the Kamtschatkan seas are reddish; and the females are tawny.

The fore-feet of this animal resemble the Ursine Seal.



Seal's, formed of a black coriaceous substance, without the least external appearance of toes, as Pernetty very erroneously represents; the hind-feet are broad, and furnished with very small nails, a narrow stripe or membrane extending far beyond each; the tail is very short; and the hind parts are vastly large, swelling out with an immense quantity of fat.

The aged males measure from ten to fourteen feet; their circumference at the shoulders is very considerable; and they weigh from twelve to fifteen hundred pounds. The females are from six to eight feet in length; of a more slender form than the males; and quite smooth.

This species is very numerous in the Penguin and Seal Islands, near Cape Desire, on the coast of Patagonia; and is also found within the Straits of Magellan, and on the Falkland Isles: but it has not as yet been discovered in any other part of the southern hemisphere, or nearer than the sea between Kamtschatka and America.

These animals, like the Urine and other Seals, are gregarious; occupy the beach nearest the sea; and appear extremely lethargic. Each male retains from twenty to thirty females. They have a very fierce aspect: and the old ones snort and roar like enraged bulls; but, on the approach of any of the human species, fly with the utmost precipitation. The females make a noise like calves; and their young bleat like lambs. The aged males lie apart; and occupy some large stone, which the rest dare not approach without hazarding a combat. The males frequently take the water, compass a large circuit, then land, and caress the females with great affection, joining snout to snout, as if kissing each other: and the females, on seeing their males destroyed, sometimes attempt to carry off their cubs in their mouths, but oftener desert them through excessive fear.

The Leonine subsist on lesser Seals, penguins, and fish. During the breeding season, while ashore, they fast three or four months; but, in order to keep their stomachs distended, generally swallow a number of large stones.

**SECRETARY.** A bird described by Sonnerat, found in the Philippines, and several parts of Africa. It is about the size of a turkey-cock. The bill and feet resemble those of the gallinaceous tribe; but the legs are destitute of feathers as far as the knees. The upper part of the body, the neck, the belly, and the coverts of the wings, are of a grey blue colour, but brighter below than above. The primaries are black; on each side of the tail there is a long, narrow, cinereous feather; and on the top of the head behind, as far as the neck, at moderate, though unequal distances, rise two parallel plumes, which become longer in proportion as they are situated lower down on the neck: these plumes, which the bird can erect and depress at pleasure, are wholly black, and exhibit a very beautiful and singular appearance.

The Secretary is pretty sociable, and capable of being reclaimed. It feeds on flesh, and consequently may be considered as a predaceous bird. The eyes are surrounded with a naked circle of a deep red colour; and the irides, as well as the bill and feet, are greyish.

**SEMILUNARES COCHLEÆ.** A genus of marine snails, so called from their having semicircular mouths. Their distinguishing characters are: the shells are univalve, of a compact body, with a flat semicircular, and often dentated

mouth; the columella, or inner lip, running diametrically across it in a straight line. Some of the species have exerted apices, and others depressed. These shells are nearly globose; for the turban is never much produced, but lies flat or level with the bottom.

A variety of distinctive and specific characters appear in the several species of this genus, which include considerable numbers under each. Thus the neritæ, which are of this genus, are some of them umbilicated; while others have teeth, and a sort of gums. The snail kinds, distinctly so called, which fall under this genus, are very different from the neritæ, in that they have neither teeth, gums, nor palate.

Rumphius first introduced the term *Semilunares Cochleæ*, as expressive of the figure of the mouths of these shells, which is semicircular. The *Cochleæ Semilunares* may be arranged under two general divisions, the dentated neritæ, and umbilicated cochleæ. There are eight species of the dentated neritæ; the gum shell, the bloody-tooth nerita, the ox-palate nerita, the striated and punctulated nerita, the canaliculated, the furrowed, the thrush, and the partridge nerita. Of the neritæ without teeth there are ten species; the jasper with a long beak, the jasper with an operculum, the lemon-coloured pea, the yellow pea, the prickly, the reticulated, the variegated with black spots, the red and white fasciated, the slightly striated green, and the undulated nerita.

There are nine species of umbilicated neritæ; the long umbilicated, that with an exerted apex, that with a depressed apex, the testiculated, the hermit, the umbonated, the small nipple, the heavy white, and the orange coloured cochleæ.

**SEPIA.** A genus of the mollusca worms, in the Linnæan system, comprehending five species. The characters of which are; that it has eight arms placed round the mouth, with small concave disks internally, and frequently two long tentacula; and that the body is fleshy, with a sheath for the breast, and a tube at the base of the breast.

Pennant describes the genus of *Sepia*, or cuttle-fish, under the names of the great, eight-armed, middle, small, and officinal *Sepiæ*. They all emit, when either pursued or alarmed, that black liquor which the ancients supposed darkened the circumambient wave, and thus concealed them. Their flesh was also esteemed a delicacy by the ancients; and is at present eaten by the Italians. Rondeletius has furnished two receipts for dressing it, which are continued to this day; Athenæus has also transmitted the method of making an antique cuttle-fish sausage; and from Aristotle we learn that those creatures are in their highest perfection when pregnant.

**SEPS.** An animal of the lizard kind, apparently of an intermediate nature between the lizard and the serpent tribes.

This is a small species. The body is rounded; and the back is variegated with longitudinal black lines. The eyes are black; and the ears and tail are extremely minute. The legs are four in number, with feet divided into toes; the first pair are placed very near the head, and the other by the anus. The scales are placed in a reticulated manner, in a longitudinal direction. The belly is white, with a slight cast of blue; and the nostrils are situated near the end of the snout.

Columna took five live ones from the body of a female



a female of this species; some of which were included in membranes, and others loose.

The bite of the Seps is said to occasion an instant putrefaction of the whole frame.

**SERASS.** A bird, supposed to be of the same genus with the colum, which migrates yearly from Mount Caucasus to Surat in the East Indies. It is distinguished by a plication of the asperia arteria, which is intended to answer similar purposes with that of the colum.

**SERINUS.** A bird belonging to the fringilla genus, in the Linnæan system; common in Italy and Germany, and called by the Austrians haerngril, or hirngryl. The back is of a reddish brown hue, and the head yellow; the colour being deeper in the male, and lighter in the female. The rump is of a beautiful yellowish green colour, as also the breast; the belly is white; the sides are ornamented with some oblong blackish spots; the tail and long feathers of the wings are black, with a slight tinge of green at their extremities; and the beak is very thick, strong, and short.

This bird is usually caged for the sake of its voice, which is very melodious.

**SERPENTS.** In the Linnæan system, an order of animals belonging to the class of amphibia, and comprehending six genera: the crotalus, or rattle-snake; the boa, or serpent, including ten species; the coluber, or viper; the anguis, or snake; the amphisbæna, or annulated snake; and the cæcilia, or tentaculated snake, the body and tail of which are wrinkled without scales, and the upper lip is furnished with two feelers; of which there are two species.

The subsequent are the Linnæan characters of the Serpent tribe: they are amphibious; breathe through the mouth by means of lungs only; and are destitute of feet, ears, and fins.

There is scarcely any one country that does not produce this poisonous brood, which seems formed to destroy the pride of mankind, and repress their boasted security. Men have driven the lion, the tiger, and the wolf, from their vicinity; but the snake and the viper still defy their power, and frequently punish their insolence.

Human assiduity, however, has been exerted with success in thinning their numbers; and it is probable that some of the species are now wholly destroyed. In none of the European countries are they sufficiently numerous to be truly formidable: the philosopher can meditate in the fields without danger, and the botanist explore the grass without apprehension of their malignity. In this quarter of the world there are not more than three or four kinds which are noxious; and their poison operates in all after a similar manner: a burning pain in the part, easily removed by early applications, is the worst effect that can be experienced from the bite of the most venomous Serpents of Europe. The drowsy death, the starting of the blood from every pore, the insatiable and scorching thirst, and the dissolution of the solid mass into one heap of putridity; are horrors which we know only from the history of antiquity, or the relations of travellers in very distant regions.

But though we have thus reduced these dangerous creatures, without a possibility of wholly removing them; in other parts of the world they still rage with all their ancient malignity. Nature seems to have placed them as sentinels to deter mankind from a too hasty diffusion, and

searching for new abodes before they have perfectly cultivated those at home. In the warm countries which lie within the tropics, as well as in the hyperborean regions, where the inhabitants are few, Serpents propagate in equal proportions. But, of all countries, those are most pestered with these noxious animals whose fields are prolific, but uncultivated, and where the climate supplies warmth and humidity. Along the swampy banks of the Niger and Oroonoko, where the sun darts his most vivifying rays, the forests are thick, and the human race but scanty, Serpents cling to the branches of the trees in infinite numbers, and carry on unceasing hostilities against all other animals in their vicinity. Travellers assure us, that they have often observed large snakes twining round the trunk of a tall tree, encompassing it like a wreath, and thus rising and descending at pleasure: in these countries, therefore, Serpents are too formidable to become objects of curiosity; they excite more violent sensations.

For this reason we must not reject, as wholly fabulous, the accounts transmitted us by the ancients of the terrible devastations occasioned by a single snake. In early ages, when arts were little known, and mankind but thinly dispersed over the face of the earth, it is probable that Serpents grew to an amazing magnitude, and every other tribe of animals retired before them. It might then have happened, that these reptiles continued the tyrants of a whole country for successive centuries. To an animal of this kind, grown by time and rapacity to the enormous length of one hundred feet, the lion, the tiger, and even the elephant, were but feeble opponents. The dreadful monster spread certain desolation around him; every living creature was either devoured by him, or fled from the effects of his fury. The horrid stench which even the most innoxious of the tribe are known to diffuse, might in those larger ones become too powerful for any animal to withstand; and while they preyed without distinction, they might thus also have poisoned the atmosphere around them. In this manner having for ages possessed the obscure and uninhabited forests; and finding, as their appetites increased, the quantity of their food diminished; it is possible that they might venture boldly from their retreats into the more cultivated parts of the country, carrying consternation among mankind, as they had before desolation among the lower ranks of nature. Many histories of antiquity present us with such a picture; and exhibit a whole nation as sinking under the ravages of a single Serpent. At that early period, man had not learned the art of uniting the efforts of many, in order to effect one momentous purpose: opposing multitudes only added new victims to the general calamity, and increased mutual embarrassment and terror; the animal therefore remained to be singly opposed by him who had the greatest strength, the best armour, and the most undaunted courage. In such an encounter hundreds must have fallen; till one more fortunate than the rest, either by a lucky blow, or by attacking the monster during some torpid interval, and surcharged with spoil, might destroy, and thus deliver his country from the tyrant.

Such was the original and most honourable occupation of heroes: and they who first obtained that appellation from their destroying those ravagers



vagers of the earth, gained it much more deservedly than their successors, who acquired their reputation only from their skill and prowess in destroying each other. But, as we descend into more enlightened antiquity, we find these animals less formidable, from their having been attacked in a more successful manner. We are told that, while Regulus led his army along the banks of the Bagrada, in Africa, an enormous Serpent disputed his passage. Pliny, who says that he saw it's skin, assures us that it was one hundred and twenty feet long; and that it destroyed numbers of the army before it was vanquished. At last, however, the battering engines were opposed to the animal; which assailing at a distance, soon destroyed it. It's spoils were carried to Rome, and the general was decreed an ovation on account of his success.

Few historical events are perhaps better ascertained than the above. An ovation was a remarkable honour, and the reward only of some very singular exploit, inferior to the honour of a triumph; and it is certain no historian would have presumed to invent that part of the story at least, because it would have subjected him to the most shameful detection. At present, indeed, such resistance from Serpents is hardly known in any part of the world; though in Africa and America, some of them are powerful enough to brave the attacks of the human species to this very day. Fortunately for us, we are situated at such a distance from this baneful tribe of animals, as to take a view of them, without fearing for our safety: to us, their slender form, their undulating motion, their vivid colouring, their horrid stench, their forked tongues, and their envenomed fangs, are totally harmless; and, in this island, their uses even serve to counterbalance the mischiefs they sometimes occasion.

If we take a general survey of Serpents, we shall find sufficient marks to distinguish them from all the rest of animated nature. They possess the length and pliancy of eels, but want fins to swim with; they have the scaly coverings and pointed tails of lizards, but are destitute of legs; they have the crawling motion of worms; but, unlike those animals, they are furnished with lungs: like all the reptile kind, they are resentful when offended; and nature has supplied them with the most terrible arms, to revenge every insult.

Though the malignity of these reptiles is very different in it's degrees, they are all formidable to man, and have a strong similitude to each other. With respect to their conformation, all Serpents have very wide mouths in proportion to the size of their heads: and, what is very extraordinary, they can swallow the head of another animal thrice as big as their own. To illustrate this, it must be observed that the jaws of the Serpent are held together at the roots by a stretching muscular skin; by which means they open as wide as the animal inclines, and admit a substance much thicker than it's own body: the throat, like elastic gum, dilates, in order to admit the morsel; the stomach receives it a nut; and the rest remains in the gullet, till putrefaction and the juices of the reptile's body unite to dissolve it. As to the teeth, it is remarkable that some Serpents have fangs, or canine teeth; and that others are wholly destitute of them: in all, however, they are crooked and hollow; and, by a particular contrivance, capable of being retracted or depressed at pleasure.

The eyes of all Serpents are small when com-

pared with the length of their bodies: though differently coloured in distinct kinds, the appearance of all is malignant and heavy; and, from their known qualities, they strike the imagination with the idea of a mischievous nature. In some, the upper eye-lid is wanting, and the Serpent winks only with that below; in others, the animal has a nictitating membrane or skin, resembling that found in birds, by which the eye is guarded, and the sight preserved. In all, the substance of the eye is hard and corneous; the chrystalline humour occupying a great part of the globe.

The auditory ducts are very perceptible in the Serpent kind: but they have no conduits for smelling; though it is probable that some species enjoy that sense in tolerable perfection.

In all these animals, the tongue is long and forked; is composed of two long fleshy substances; is very pliable; terminates in sharp points; and at the root is very strongly connected to the neck by two tendons, which give it a variety of motion. Some of the viper kind have tongues a fifth part of the length of their bodies; which they are continually darting out, to the great terror of such persons as are ignorant of the true situation of their poison.

If from the jaws we proceed to the gullet, we shall find it very wide for the animal's size, and capable of vast distension. At the bottom of the throat lies the stomach, which is less capacious, and receives only a part of the food, while the rest continues in the gullet for digestion: and after the substance in the stomach is chylified, it passes into the intestines; from thence it goes either to nourishment, or to be excluded by the vent.

Like most other animals, Serpents are furnished with lungs, which probably assist them in breathing, notwithstanding the manner by which that operation is performed is difficult to be traced: for though these creatures are observed apparently to draw in their breath, there is not the smallest visible sign of their ever respiring it again. Their lungs, however, are long and large, and doubtless contribute to accelerate their languid circulation. The heart is formed as in the tortoise, the frog, and the lizard kinds, so as to exert it's powers without the assistance of the lungs: it is single, the greatest part of the blood flowing from the large vein to the great artery by the shortest course. Hence it may be inferred, that snakes are amphibious, being equally capable of living on land as in the water; and that they are also torpid during the winter, like the bat, the lizard, and other animals formed in a similar manner.

In these reptiles, the vent serves for the emission of the urine and the faeces, as well as for the purposes of generation. The instrument of propagation in the male is double, being forked like the tongue: the ovaries in the female are also double, and the aperture is very wide, in order to admit the double instrument of the male. They copulate in their retreats; and in this situation, if we may credit the ancients, they exhibit the appearance of one Serpent with two heads.

As the body of the Serpent is long, slender, and capable of extreme flexibility, the vertebrae are numerous beyond what might naturally be imagined. In the generality of quadrupeds they amount to no more than thirty or forty, but in the Serpent tribe, they rise to one hundred and forty-five from the head to the vent, and twenty-five more from that to the tail. The number of these joints



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joints must undoubtedly give the back-bone a surprising degree of pliancy; but this is still farther increased by the manner in which each one of these joints is locked into another. With respect to men and quadrupeds, the flat surfaces of the bones are laid against each other, and closely bound by sinews; but, as to Serpents, the bones play one within the other like ball and socket, so that they have full motion on each other in every direction.

But though the number of joints in the back-bone of the Snake is so very considerable, that of the ribs is still more so; for from the head to the vent there are two ribs to every joint, which in all amount to two hundred and ninety: these ribs are furnished with four muscles, which being inserted into the head, run along to the end of the tail, and give the animal great strength and agility in all its motions. The skin also contributes to the same purpose; being composed of a number of scales, united to each other by a transparent membrane, which becomes harder as it grows older, till the animal changes it, which is generally twice in the year. This covering then bursts near the head; and the Serpent creeps from it, by an undulatory kind of motion, in a new skin of more vivid beauty than the former: and if the exuviae be then viewed, every scale will be distinctly seen, like a piece of net-work, larger or smaller according to the proportion of that space which they covered.

The scales of the Serpent are disposed with a great degree of geometrical neatness, for assisting it in its sinuous motion. As the edges of the foremost scales lie over the extremities of the succeeding; so those edges, when the scales are erected, (which the animal possesses the faculty of elevating in some measure) catch in the ground, like the nails in the wheel of a carriage, and so promote and facilitate the Serpent's progressive motion. The scales are erected by means of a multitude of distinct muscles wherewith each is supplied, and one end of which is united in each to the middle of the preceding.

In some of the Serpent kind, there is the most exact symmetry in these scales; while in others they are more irregularly disposed: in some, there are larger scales on the belly, often answering to the number of ribs; and in others there are no scales whatever. On this slight difference Linnaeus has founded his distinctions of the various classes of the Serpent tribe; though nature seems to indicate a different arrangement, namely, into large and small, venomous and innoxious.

If we compare Serpents with each other, their differences are remarkable. Nothing can be more remotely separated than the great Liboya of Surinam, which grows to the length of thirty-six feet; and the little Serpents of the Cape of Good Hope, which, though under three inches, are so very numerous as to cover whole deserts. This tribe, like that of fishes, seem to have no bounds prescribed to their growth. Their bones are in a great measure cartilaginous, and consequently capable of great extension: the older, therefore, Serpents become, the larger they grow; and as they are remarkable for longevity, sometimes arrive at an enormous size.

We are informed that there are Serpents in the island of Java, which measure ten feet in length, and are known to grow to upwards of forty feet; and there is a kind of one in the British Museum that measures thirty-two feet. A gentle-

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man of veracity, who had considerable possessions in America, assured Dr. Goldsmith, that these creatures grow to an enormous length in some parts of that country: in confirmation of which assertion, he related the following incident. He one day sent forth a soldier, accompanied by an Indian, to kill wild-fowl for his table. In pursuing their game, the Indian, who generally went foremost, beginning to tire, stopped in order to rest himself on the fallen trunk of a tree, as he supposed: but just as he was about to sit down, the fancied trunk began to move; and the poor savage perceiving that he had approached a liboya, the largest of all the Serpent kind, instantly fell to the ground through fear. The soldier, who had discovered the cause, levelled his piece at the Serpent's head; and, by a lucky aim, shot it dead: however, he continued to fire till he was convinced that the animal was really killed; and then going up to his companion, who lay motionless by its side, to his unspeakable astonishment, found him dead likewise, his death having been occasioned by the sudden fright. On his return home, he related what had happened; and the animal, being stripped of its skin, measured no less than thirty-six feet.

In the East Indies also these Serpents grow to an enormous size; particularly in Java, where we are assured one of them will seize and devour a buffalo. But fortunate is it for mankind that the rapacity of these hideous creatures often proves their punishment; for whenever any of the Serpent kind have gorged themselves, they then become torpid, and may be approached and destroyed with safety. Patient of hunger to a surprising degree, whenever they have swallowed their prey, they seem, like surfeited gluttons, unwieldy, stupid, helpless, and sleepy. At such times they search out some retreat, where they lurk for several days together, and digest their meal unmolested: the weakest effort would then destroy them; for they can hardly make any resistance, and are equally unfit for flight. The naked Indian himself is not then afraid to attack them. But, whenever this sleepy interval of indigestion is ended, they issue from their retreats with furnished appetites and accumulated terrors; while every creature flies before them.

Other animals have some kind of choice in their provision; but Serpents indiscriminately prey on all; the buffalo, the tiger, and the garelle, are equally acceptable. It might be imagined that the quills of the porcupine would be sufficient to protect it; but whatever possible life serves to appease the hunger of these voracious creatures: porcupines, with all their quills, have frequently been found in their stomachs when opened; and they have even sometimes been known to devour each other.

A life of savage hostility in the forest presents to the imagination one of the most tremendous pictures in nature. In those parched countries where the heat of the sun dries up every brook for hundreds of miles in continuity; and what has the appearance of a considerable river during the rainy season, becomes in summer one dreary bed of sand: in such regions, a lake which never dries, and a perennial brook, are by animals in general esteemed the greatest blessings in nature. With respect to food, the luxuriant landscape supplies that in sufficient abundance; but it is the want of water they principally wish to elude; and, in- wardly



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wardly parched by the heat of the climate, traverse whole deserts in quest of a spring; which when they have discovered, no dangers can deter them from attempting to slake their thirst. Thus the vicinity of some rivulet is generally the rendezvous of all the hostile tribes of nature. On the banks of this little envied spot thousands of animals of various kinds are observed, either endeavouring to quench their thirst, or preparing to seize their prey: elephants are arranged in a spacious line, marching from the darker parts of the forest; buffaloes are also there, trusting to their numbers for security; garelles, relying solely on their fleetness; and lions and tigers, waiting a fit opportunity of seizing the unwary. But chiefly the larger kinds of Serpents are stationed here, defending each access to the water. Not an hour passes without some dreadful encounter. But the Serpents, defended by their scales, and naturally capable of sustaining a multitude of wounds, are of all others the most formidable: they are also the most wakeful; for the whole tribe sleep with their eyes open, and consequently are always on the watch; so that, till their rapacity is satisfied, few other animals will venture to come near them.

But though Serpents are of all other animals the most voracious; and though the morsels they swallow without mastication, are larger than what any other creatures, either by land or water, are capable of absorbing; yet none can endure abstinence for so long a time: a single meal, with many of the snake kind, seems to be the adventure of a season; a luxury they have sometimes been whole months in patient expectation of. When they have seized their prey, their industry is entirely discontinued for weeks together; and the fortunate capture of one hour often satisfies them for the remaining period of their annual activity. As their blood is colder than that of most terrestrial animals, and circulates but slowly through their bodies; so their powers of digestion are but feeble. Their prey continues for a long time, partly in their stomachs, partly in their gullets; and a portion of it is often seen hanging from their mouths. In this manner it digests by degrees; and in proportion as the part below is dissolved, the portion above is taken in. It is not therefore till this tedious operation is entirely performed, that the Serpent renews its appetite and activity: but should any accident prevent it from issuing once more from its cell, it can still continue to endure famine, for weeks, months, and even years together. Vipers are often kept in boxes for six or eight months without any food whatever; and fined Serpents are sometimes imported into Europe from Grand Cairo, that live in phials for several years, without any apparent aliment. Thus the Serpent tribe unite in themselves two very opposite qualities, extreme abstinence, and yet incredible rapacity.

If we compare Serpents with respect to their voice, some are found silent, and others have a peculiar kind of cry, but a sort of hiss is the general expression either of invitation or defiance. In those countries where they abound, they are generally silent during the middle of the day, when they are obliged to shelter themselves from the heat of the climate: but, as the cool of the evening approaches, they issue from their cells with confidence and legs, and such is the variety of their notes, that the authors affirm they induce a perfect, or at least the harmony of an English

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grove. Such notes, however, can afford but little delight, when we recollect the malignity of the minstrels. If considered, indeed, as they answer the animals particular occasions, they will be found well adapted to their nature, and fully answering the purposes of terrifying such as would adventure to offend them.

With reference to motion, some Serpents, particularly those of the viper kind, move but slowly; while others, such as the amodytes, dart with amazing swiftness. The motion in all is similar; but the strength of the body, in some, exhibits a very different appearance. The viper, which is but a slow, feeble-bodied animal, proceeds in a heavy, undulating manner; advancing its head, then drawing up its tail behind, and bending its body into a bow; afterwards, from the spot where the head and tail were united, advancing the head forward as before: this, which is the motion of all Serpents, is very different from that of either the earth-worm or the naked snail. The Serpent, as previously observed, has a back-bone, with numerous joints; and this bone the animal possesses the power of bending in every direction, but without being able to shorten or lengthen it at pleasure: the earth-worm, on the contrary, has no back-bone; but its body is composed of rings, which it can lengthen or shorten at discretion. The earth-worm, therefore, in order to move forward, lengthens its body; then by the fore-part clings to the ground where it has reached; and afterwards contracts and brings up its rear; when the body is thus shortened, the fore-part is lengthened again for another progression; and so on: but the Serpent, instead of shortening its body, bends it into an arch. This is the principal difference between serpentine and vermicular progression.

Many Serpents, however, dart with such amazing swiftness, that they appear rather to leap than crawl; though it is probable that no snakes can dart farther than their own length, on even ground, at a single effort: our fears, indeed, may increase the force of their speed, which is sometimes found so fatal. The Jaculus is the swiftest Serpent in nature; and its manner of progression is by instantly coiling itself on its tail, and darting from thence to its full extent; then carrying its tail quick as lightning to its head; coiling and darting again; and by this means proceeding with extreme rapidity, without ever quitting the ground.

Though all Serpents are amphibious, some are much more attached to the water than others; and, though destitute of fins or gills, remain at the bottom, or swim along the surface with great ease. From their internal structure, we may discern how well adapted they are for either element; and how capable their blood is of circulating at the bottom, as freely as that of the frog or the tortoise: salt water, however, is baneful to the whole tribe. The largest Serpents are frequently found in fresh-water, either choosing it as their favourite element, or finding their prey there in the greatest abundance. But the experiment of Rhedi evidently demonstrates that all are capable of existing and swimming in liquids: this curious naturalist put a serpent into a large glass vessel filled with wine, where it continued swimming about for six hours, without any sensible injury; though, when immersed by force, and confined under the liquor, it died in one hour and a half. He placed another in common water, where it lived three days.



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days; but, when plunged under the water, it expired in the space of twelve hours. In the liquid element, however, the motion of Serpents is perfectly the reverse of what it is on land; for, in order to support themselves on an element lighter than their own bodies, they are obliged to increase their surface in a very artificial manner. On earth, they wind perpendicular to the surface; in water, parallel to it: in other words, the waving of the hand up and down will give a clear idea of the progress of these animals on land; and the waving it from right to left, will represent their progress on the water.

So horrible a fætor exhales from some Serpents, that it is alone capable of intimidating their assailants. This effluvia proceeds from two glands near the vent, like those in several of the weasel kind; and, like those animals, in proportion as they are excited by rage or fear, the scent becomes stronger. It appears, however, that such Serpents as are most numerous, are the least offensive in this particular; for the rattle-snake and the viper are perfectly free from any disagreeable odour: and, if we may give credit to travellers, there are some noxious Serpents in the East Indies, which are so far from being disagreeable to the smell, that their very excrements are sought after, and preserved as the most grateful perfume.

Some Serpents are viviparous, as the viper; but others are oviparous, as the common black snake, and the majority of the Serpent tribe: however, proficient in anatomy need not be informed, that these animals are internally formed alike, in whatever manner they produce their young; the variety in parturition being rather a slight than a real discrimination. The only difference is, that the viper hatches her eggs, and brings them to maturity within her body; whereas the snake is more premature in her productions, and brings forth her eggs some time before the young are capable of quitting the shell. Thus, if either be opened at the proper season, the eggs will be found in the womb, covered with their membranous shells, and adhering to each other like large beads on a string. The young ones will be found inclosed in the eggs of both, though at different stages of maturity: those of the viper will crawl and bite the instant they are liberated from the shell; while those of the snake will be found imperfect in their natural formation.

Labat caused a Serpent of the viperine kind, measuring nine feet, to be opened in his presence. He then saw the manner in which the eggs of those animals lie in the womb. In this creature there were six eggs, as large as those of a goose, but longer, sharper at the extremities, and covered with a membranous skin, by which also they were united to each other. Thirteen or fourteen young were contained in each of the six eggs, about six inches in length, and the head neck of a crocodile. The parent was spotted, but the young ones had a variety of colour, very different from their mother, which induced the people to conjecture that the colour composition was not the same among Serpents. The little animals were no longer emancipated from their confinement, but crept about, and put themselves into a thousand postures, by coiling themselves up, and stretching to the stick with which they were fastened to the table.

The last, but not least, distinction, among Serpents, is, that some are venomous, and others inoffensive. The poison of the reptiles has been

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for ages one of the greatest objects of human consideration. In Europe indeed, where the vengeful wound is seldom inflicted, it is regarded merely as a subject of curiosity; but to those who are placed amidst the Serpent tribe, and are daily exposed to some new disaster, it becomes a matter of the most serious import. The physicians of the East consider their skill in furnishing antidotes against this calamity as the highest perfection of the healing art. In all countries, however, the poison of the Serpent is sufficiently formidable to excite our attention to its nature and effects: a description therefore of its seat in the animal, and of the instrument by which it is communicated, cannot fail of proving both amusing and instructive.

In all the venomous class of reptiles, whether the viper, the rattle-snake, or the cobra di capello, there are two large teeth or fangs, issuing from the upper jaw, and projecting beyond the lower. The innoxious class is destitute of them; and it is most probable, that wherever these fangs are wanting, the animal is harmless: on the contrary, wherever they are found, it is to be avoided as the most deadly foe. These instruments seem to constitute the true distinction between animals of the Serpent kind: the wounds which these fangs inflict produce the most dangerous symptoms; but those made by the teeth only are attended with nothing more than the common consequences arising from the bite of any other animal. If a snake has fang-teeth, it is to be ranked among the venomous class; if it has not, it may be considered as inoffensive. Many Serpents indeed are said to be poisonous, whose jaws are destitute of fangs: but it seems extremely probable that our fears alone have furnished these animals with poison; for, of all the tribe which want this apparatus, not one is found to have a bag for holding poison, nor a conduit for injecting it into the wound. The black snake, the liboya, and numerous others, have their teeth of an equal size, fixed in their jaws; and are no more capable of inflicting dangerous wounds than dogs or lizards. But it is far otherwise with respect to the venomous tribe: these are well furnished, not only with a laboratory wherein the poison is concocted, but with a canal by which it is conducted to the jaw, a bag under the fang for containing it, and also an aperture in the fang itself for injecting it into the wound. The glands which supply this venomous fluid are situated on each side of the head behind the eyes, and have canals leading from thence to the bottom of the fangs in the upper jaw, where they empty themselves into a kind of bladder, from which the fangs on each side proceed. The venom contained in this bladder is a yellowish, thick, insipid liquor; which, when injected into the blood, proves fatal; yet may be swallowed without any danger.

The fangs which inflict the wound, are large in proportion to the animal that bears them. They are crooked, but yet sufficiently sharp to penetrate most substances. They grow one on each side, and sometimes two, from as many moveable bones in the upper jaw, which, by sliding backward or forward, possess a power of creeping or depressing the teeth in pleasure. A number of teeth also, ranged along their lower jaw, which serve only to seize and hold the animal's prey. Besides this disposition of the fangs, they have an internal cavity, and an opening to the



wards the point, through which, when the fang is pressed down on the bladder, a part of the venom is immediately seen to issue. To illustrate this operation: when the Serpent is irritated to inflict a venomous wound, it opens it's jaws to their widest extent; the moveable bones of the upper jaw slide forward; the fangs, which before lay reclining, are thus erected; they are then struck with force into the flesh of the obnoxious person; and, by meeting resistance at the points, they press on the bladders of venom from whence they grow: the poison issues up through the hollow of the tooth; and is pressed out through it's slit into the wound which the fang has already made in the skin. Thus, from a slight puncture, and the infusion of a very minute drop of poison, the part is quickly inflamed; and, without a proper antidote, the whole frame is contaminated.

The appearances which this venom induces are different, according to the degree of malignity in the Serpent, the part affected, the warmth of the season or climate, and the strength of the animal that gives the wound. However, the various calamities which the poison of Serpents is capable of producing, are not only inflicted by the creatures themselves, but by men more mischievous even than Serpents, who prepare their venom purposely to destroy each other. With this poison the savages imbue their arms, and also prepare their revengeful potions. The ancients used to preserve it for the purposes of suicide; and, even among semibarbarous nations at this day, the venom of Serpents is employed as a philter. But though this poison be justly terrible to mankind, it is bestowed by Providence for the reptile's own proper support and defence. Without it, Serpents would, of all other animals, be the most exposed and insecure: without feet for escaping a pursuit; without teeth capable of inflicting a dangerous wound; without strength for resistance; incapable, from their size, of finding security in very small retreats, like earth-worms; and highly disgusting because of their deformity; what else must have been the consequence but a speedy extirpation? But, furnished as they are with powerful poison, all ranks of animals approach them with dread, and never seize them but at an advantage.

Nor is this all the protection they derive from their poison: the malignity of a few serves for the security of all. Though not one tenth part of their number is actually venomous, the similitude they bear to each other excites a general terror of the whole tribe; and the uncertainty of their enemies in which individual the poison chiefly resides, makes even the most harmless Serpents formidable. Thus Providence seems to have acted with a double precaution: it has imparted poison to some of them for the general defence of a tribe naturally feeble; but it has also thinned the numbers of those which are absolutely venomous, lest they should prove too potent for the rest of animated nature.

Considering these noxious and disgusting qualities in the Serpent tribe, it is not at all surprising, that not only man, but also beasts and birds, carry on incessant hostilities against them. The ichneumon of the Indians, and the peccary of the Americans, destroy them in prodigious numbers: these animals possess the art of seizing them near their heads, and it is likewise said that they can slay them with great dexterity. The vulture and the eagle likewise prey on them in great abund-

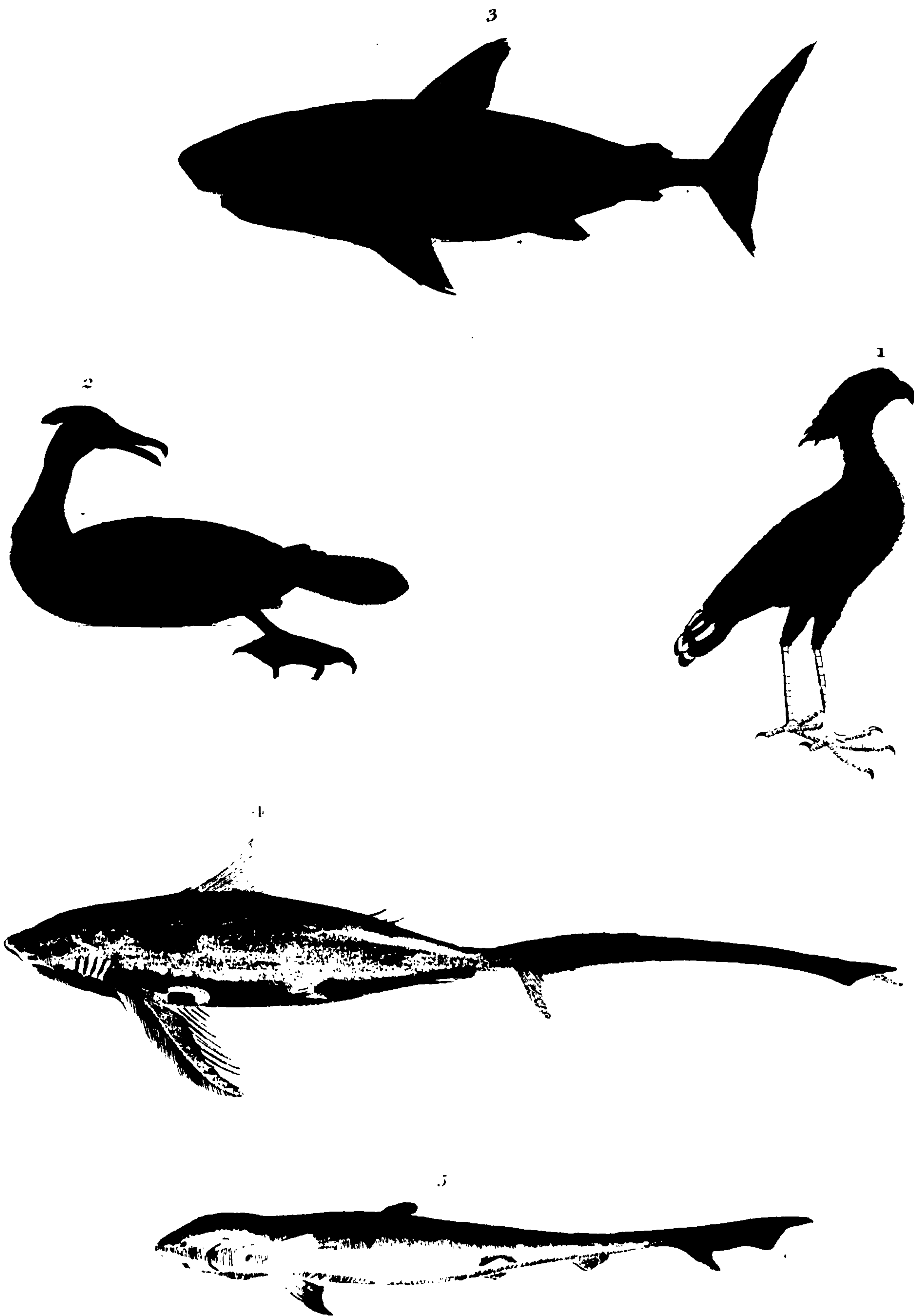
ance; and often darting on huge Serpents from the clouds, snatch them up struggling and writhing into the air. Dogs also assist in exterminating the species. Father Feuillée informs us, that he was attacked in the woods of Martinico by a large Serpent; when his dog instantly coming to his relief, seized the assailant with great courage. The snake entwined and pressed him with such violence, that the blood gushed from his mouth; nevertheless, the dog never quitted the reptile till he had torn it to pieces. During the conflict, the dog seemed insensible of his wounds; but, soon after, his head swelled prodigiously, and he lay on the ground as if dead. His master, however, having luckily discovered a banana-tree, applied it's juice, mixed with treacle, to the wounds; which recovered the dog, and speedily healed the parts affected.

But man is the most formidable enemy which these venomous creatures have to encounter. The Pyslli of old are said to have been famous for charming and destroying Serpents. Some moderns have also pretended to the same art; and Casaubon informs us, that he knew a man who could at any time summon a hundred Serpents together, and draw them into the fire. Philostratus has given us a particular description of the manner in which the Indians charm these reptiles. 'They take,' says he, 'a scarlet robe embroidered with gold letters, and spread it before their holes: these letters possess a kind of fascinating power; and by looking stedfastly on them, the eyes of these animals are overcome, and themselves laid asleep.'

These, with many other devices, have often been practised on Serpents by artful men, who had first prepared the reptiles for their exercise, and then exhibited them as if adventitiously assembled at their call. Nothing is more common in India than dancing Serpents, which are carried about in broad flat vessels, somewhat resembling sieves. They erect and put themselves into different attitudes at the word of command. When the owner sings a slow tune, they seem, by the vibration of their heads, to keep time with his voice; and when he sings one of a quicker measure, they appear to move with more briskness and vivacity. From this deception, artfully practised before the vulgar, probably have arisen all the boasted pretensions which some have made to the incantation of Serpents; an art to which the native Americans still lay claim. A pupil of the celebrated Linnaeus is said to have purchased the secret from an Indian, and then disclosed it to his teacher; but, like all others of the kind, it consisted of only a few unmeaning words of no particular efficacy.

Notwithstanding the horror with which mankind generally regard this tremendous race of animals, there have been various nations in remote antiquity, and there are some even at present, who regard them with a kind of veneration. The adoration paid by the ancient Egyptians to a Serpent is well known; and many nations now inhabiting the western coast of Africa retain the same ridiculous superstition. In traversing the Gold and Slave Coasts, a stranger is often surprised to see swarms of Serpents clinging to the roofs of cottages which the simple natives have reared, neither molesting nor molested; but his astonishment is increased, when, proceeding farther southward to the kingdom of Windah, he finds that a Serpent is worshipped as the deity





1. SERPENT EATER 2. SHAG 3. BLAU MARIS SHARK 4. LONG - TAILED SHARK  
5. SMOOTH SHARK



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of the country. This animal, which travellers describe as enormously large, has it's habitation, it's temple, and it's priests: these last impress the vulgar with an opinion of it's virtues; and multitudes daily become the dupes of their artifice. The deluded populace not only offer their goods, their provisions, and their prayers, at the shrine of this hideous god; but also their wives and daughters: these the priests readily accept; and, after some days of penance, return the females to their suppliants, much benefited by the Serpent's supposed embraces. Such a complicated picture of ignorance and imposture give us a very mean idea of the rationality of the natives: but, in defence of human nature, it should be remarked, that the most uncultivated and barbarous of mankind alone pay their veneration to such a despicable divinity.

**SERPENT-EATER.** Edwards, who first described and figured a bird of this kind, considers it as a distinct genus; in it's general shape approaching to the crane, but in the conformation of it's feet and bill differing considerably from that tribe. The bill is aquiline; and the talons are small, and but ill adapted for a bird of prey. The eyes, which are dark, are situated in spaces covered with a bare orange-coloured skin; the head is adorned with a beautiful crest, composed of many long party-coloured feathers, tipped with black, and hanging backwards; the beak, head, neck, back, breast, and upper coverts of the wings, are of a blueish ash-colour, somewhat lighter on the breast than the back; the belly, thighs, greater wing-feathers, and tail, are black, the latter tipped with white; the legs and feet are of a reddish flesh-colour; and the claws are black.

The Dutch at the Cape of Good Hope give this bird the appellation of slang-eater, from the avidity with which it devours snakes. Three species of this genus have been imported into Europe; the largest of which measured three feet from the extremity of the tail to the crown of the head.

This singular bird is said to be held in the highest veneration in the interior parts of Africa. Some assert that it is the ibis of antiquity: and Josephus tells us, that Moses preserved his army from a multitude of destroying serpents by means of the ibis, of which he collected numbers during his travels.

**SERPENT FISH, RED;** the *Serpens Rubescens* of some ichthyologists. A fish properly belonging to the tania genus; resembling the common snake in figure; of a strong red colour; and marked down the sides with oblique lines, exclusive of a long line on each side reaching from the gills to the tail. The mouth is small; and the teeth are sharp and serrated. Over the back there are a number of fine capillaments at intervals, which extend to the tail; and the same are likewise perceptible on the belly.

**SERPULA.** A genus of shells of a tubular shape, round adhering to other bodies. The included animal is a trebellia. Pennant enumerates the species, angular, excavated, twined, and with a sculpin, all which are natives of the British coast.

**SERRA PISCIS.** An appellation by which many authors express the pruss, or saw fish.

**SERRA** is also a name given by Pliny to the bilby, more generally denominated scelopex. Aristedi distinguishes it by that of the balites with

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two spines in the place of the ventral fins, and one behind the anus. See **TRUMPET-FISH**.

**SERRATE FLIES.** A term by which some naturalists express a class of flies, distinguished from all other kinds by their having a weapon, resembling a double saw, at the extremity of their bodies; which assists them in making repositories for their eggs in the branches of trees. Of this kind is the rose-fly. See **ROSE-FLY**.

**SERVAL;** the *Catus Pardus* of naturalists in general. This animal is of the feline kind, and a native of Malabar. It resembles the panther in it's spots; but the lynx in it's size, the robustness of it's make, and the shortness of it's tail.

**SEKULA.** A marine bird of the mergus kind, very common in the neighbourhood of Venice. Ray calls it the mergus cirratus fuscus, the brown-crested, or lesser-toothed diver; and supposes it synonymous with the anas longirostris, or long-beaked duck of Gesner; while Pennant gives it the name of the red-breasted merganser. See **MERGANSER, RED-BREASTED**.

**SESERINUS.** An appellation whereby Rondeletius, and some other ichthyologists, have expressed an Italian sea-fish of a broad, short figure; apparently the same with the lampuga of the Italian fishermen, and most commonly known by the name of stromateus.

**SETACEUS VERMIS.** A name by which Lister expresses that very long slender water-worm, the amphipoda aquatica of naturalists in general. These worms, which the vulgar suppose to be animated hairs, are a peculiar sort of insects, bred and nourished within the bodies of other insects, as the worms of the ichneumon flies are in the bodies of caterpillars.

**SETICAUDAL.** A term by which naturalists denote such flies as have one or more hairs issuing from their tails. A great number of species fall under this definition.

**SEWIN.** A provincial appellation for the fish more usually denominated the grey. See **GILLY**.

**SHAD;** the *Clupea Aloia* of Linnæus. A sea-fish of the harreniform kind; called also the mother of herrings; by some ichthyologists, clupea and trissa; and by the ancients, as is generally supposed, trichis or trichias.

The Shad bears a strong resemblance to the herring in it's general conformation; but it is more depressed, and broader. The head slopes down considerably from the back, which at the nose is very convex, or rather sharp; and the body gradually diminishes from thence to the tail. The under jaw is somewhat longer than the upper; the teeth are very minute; the dorsal fin is small, with the middle rays longest, and placed very near the centre; the tail is much forked; and the belly is extremely sharp, and strongly serrated. The body is of a dusky blue colour; above the gills a line of dark spots commences, marking the upper part of the back on each side; the number of the spots differing in different fish, but being usually from four to ten.

Shads are very common in many seas, and also in some of our large rivers, especially near their mouths: there they attend in prodigious numbers, at a season when they are very fat; but afterwards becoming lean, they revisit the sea, and generally breed in large shoals.

The Severn abounds the finest Shads in Great Britain: in winter season, they make their appearance in that river about the end of April, but



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more usually in May; and continue about two months. The Shad, at it's first appearance, particularly in the vicinity of Gloucester, is esteemed a most delicate fish, fetching a higher price than the salmon; and the London fishmongers distinguish it from that of the Thames by the French name, *alose*.

It remains as yet undetermined whether or not Shads spawn in the Severn: certain it is, their fry has neither been ascertained in that river, nor the Wye. The old fish quit the sea in full roe; and many fishermen erroneously suppose, that the bleaks which appear in myriads near Gloucester in July and August, are the fry of the Shad: many of them are taken in those months only; but none of the emaciated Shads are ever caught on their return.

The Shad of the Thames does not frequent that river till the month of July; and is esteemed a very insipid, coarse fish. About the same time, the twaite, a variety of the Shad, is taken in prodigious numbers in the Severn, near Gloucester; but is as little valued as the Shad of the Thames.

The real Shad weighs from four to eight pounds; the twaite, on the contrary, weighs from half a pound to two pounds, which it never exceeds. The twaite differs from a small Shad only in having one or more round black spots on the sides: if only one, it is always near the gill; but commonly three or four are arranged one under the other.

Agreeable to act of parliament, no Shads must be taken in the Thames or Medway, except from the 10th of May to the 30th of June.

**SHAG**, the *Pelecanus Graculus* of Linnæus. An aquatic fowl very common on the northern coasts: denominated by Ray *Corvus Aquaticus Minor*, or the lesser cormorant; being properly a bird of the cormorant kind.

The Shag is frequently twenty-seven inches in length; three feet six inches in breadth; and nearly four pounds in weight. The bill, which is straight and slender, is of a roundish figure, four inches long, and hooked at the extremity; the opening of the mouth is large; the eyes are small; and the head is adorned with a crest, two inches long, and pendulous backward. The whole plumage of the upper part is of a fine glossy green hue, the edges of the feathers being of a purplish black; but the lower part of the back, head, and neck, are wholly green. The belly is dusky; and the legs are black.

This bird builds in trees, like the common cormorant. It swims with it's head erect: and is shot with extreme difficulty; for it no sooner perceives the flash of a gun, than it dives under water, and rises again at a considerable distance.

**SHARK**. A species of *squalus*, in the Linnæan distribution; but considered by Pennant as a distinct genus. The characters are these: the body is slender, decreasing towards the tail; it has two dorsal fins, a rough skin, and five apertures on the sides of the neck; the mouth is generally situated far beneath the extremity of the nose; and the upper part of the tail is longer than the lower. There are several species.

Sharks are the fercest and most voracious of all the inhabitants of the deep. The smallest of this tribe are not less dreaded by larger fish than many which to all appearance seem more formidable; nor do any of them decline the combat with animals far above their own size; and some of them are from twenty to thirty feet in length.

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No fish whatever can swim with such velocity as the Shark; nor is any so constantly engaged in that exercise: he outstrips the swiftest ships, plays round them, darts out before them, returns, and seems to gaze at the mariners without exhibiting the smallest symptom of strong exertion or uneasy apprehension. Such amazing powers, joined with such ravenous appetites, would speedily depopulate even the ocean itself, did not the upper jaw of the Shark project so far above the lower, that he is obliged to turn on one side (not on his back, as generally supposed) before he can seize his prey. As this act requires some time, the animal pursued avails itself of the delay, and frequently effects an escape. Still, however, the depredations he commits are frequent and formidable. He is the terror of sailors in all hot climate, where he generally attends the ships, in expectation of spoil; and should any person happen to fall overboard on such an occasion, he would certainly perish without instant relief.

A sailor bathing in the Mediterranean, near Antibes, in 1744, about the distance of forty yards from the ship, perceived a monstrous fish making towards him, and surveying him on every side. Struck with terror, the hapless man called out to his companions in the vessel to afford him immediate assistance: they accordingly threw out a rope with the greatest expedition; and were drawing him up by the ship's side, when the Shark instantly darting after him from the water, snapped off his leg.

Pennant likewise informs us, that the master of a Guinea ship finding a rage for suicide prevail among his slaves, from a notion the wretched creatures entertained that after death they should be restored again to their country, family, and friends; in order to convince them that some disgrace should attend them even here, he ordered one of their dead bodies to be suspended by the heels, and so let down into the sea; and though the corpse was drawn up again with all possible expedition, during that very short space the Sharks had devoured the whole of it except the feet.

Another Guinea captain, by stress of weather, was driven into the harbour of Bristol, with a lading of very sickly slaves; who, in the manner previously mentioned, and from the same prepossessions, embraced every opportunity of throwing themselves overboard when brought on deck for the benefit of fresh air. The captain perceiving, among others, a woman slave attempting to destroy herself, pitched on her as a proper example to the rest: supposing that they had a very imperfect idea of the terrors of death, he ordered a rope to be tied under her arm-pits, and her body to be thus let down into the water. The poor slave was no sooner plunged about half way down, than she was heard to utter a terrible shriek, which at first was ascribed to her dread of drowning; but soon after the water appeared of a red hue around her, she was drawn up, and to their great surprise, found that a Shark, which had followed the track of the ship, had bit off one half of her body from the middle downwards.

A gentleman, now living, and a member of the British legislature, had also the misfortune to lose one of his legs by the bite of one of these terrible creatures, while bathing in the West Indies; and, were we to catalogue the many accidents occasioned by Sharks, which have been transmitted by numerous unqualified authorities, they would far exceed the limits prescribed to a work of this nature.



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nature. Indeed, such is the tremendous rapacity of these creatures, that nothing animated is rejected by them. But towards mankind they seem to harbour a peculiar aversion; and, when they have once tasted human flesh, they never desist from haunting those situations where they hope for a return of their prey. It is even asserted that, along the African coast, where these animals are very numerous, the negroes, who are obliged to frequent the water, are often seized and devoured by them. The natives of these coasts are firmly persuaded, that the Shark prefers the black man's flesh to that of the white man; so that whenever men of different colours present themselves, he always makes choice of the former.

Certain it is, that people of all colours and all countries are equally afraid of this animal; and have contrived different methods to destroy him. In general, they derive their success from the Shark's own rapacity. The usual way in which our sailors catch him, is by baiting a large hook with a piece of beef or pork; which is thrown into the sea, fastened to a strong cord, strengthened near the hook by an iron chain: for, without this precaution, the Shark would instantly bite the cord in two, and liberate himself. It is no unpleasing diversion to observe this voracious animal surveying the bait, particularly when hunger does not render him very eager: he approaches it, examines the substance, swims round it, and seems for a short space to turn away from it; then he appears again, and prepares to swallow the lure, but once more quits it. When the sailors have sufficiently diverted themselves with his different evolutions, they make a shew of removing the bait, by drawing the rope towards them. The rapacious animal, no longer able to resist the impulse of appetite, darts at the meat, and swallows it downright: sometimes, however, he does not so entirely gorge it, but that he once more regains his liberty; but even then, though wounded and bleeding with the hook, he again pursues the bait till captured. When he finds the hook lodged in his maw, his utmost efforts are then exerted in order to get free: he attempts to break the chain with his teeth; pulls with all his strength to break the line; and makes the most violent efforts to disgorge the hook. In this manner he struggles till quite spent; when he suffers his head to be drawn above water; and the sailors confining his tail by a noose, speedily draw him on board, and dispatch him. This is effected by beating him on the head till he dies: yet even that business is attended with difficulty and danger; the enormous creature, terrible in the agonies of death, still struggles with his destroyers, nor is there any animal more tenacious of life. Even when cut in pieces, the muscles preserve their motion, and vibrate for some time after they are separated from the body.

Another method of taking the Shark consists in thrusting a barbed instrument, called a fize, into his body, as he brushes along by the side of the ship: and as soon as he is taken up, his tail is cut off with the greatest expedition, to prevent his flopping, which often proves dangerous to by-standers.

Such are the modes by which Europeans destroy the Shark. But some negroes along the African coast adopt a bolder as well as more dangerous method of combating this formidable enemy: armed only with a knife, the negro plunges into the water, where observing the Shark

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watching for his prey, he boldly swims forward to assail him. Though the huge animal does not always provoke the combat, he in no respect avoids it, and suffers the negro to approach him: but, just as he turns on his side in order to seize the aggressor, the negro plunges his knife into the belly of the Shark, and pursues his blows with such address, that he generally lays the ravenous tyrant dead at the bottom. The victor, however, soon returns; fixes the animal's head in a noose; and, with the assistance of his companions, drags him ashore, where he yields a sumptuous feast to the adjacent villagers.

Nor is man the only successful opponent of the Shark: the remora, or sucking-fish, is probably a still more fortunate one, pursuing him with unceasing animosity. This fish possessing the faculty of adhering to whatever substance it chuses, clings to the Shark, and drains away his moisture. The seamen, however, entertain a different opinion: they suppose that the remora attends the Shark for more amicable purposes, namely, to warn him of his danger, and point out his prey; and on this account it has been called that animal's pilot.

The Shark breathes with it's gills and lungs; it's bones are cartilaginous; and it brings forth several young alive. Bellonius assures us, that he knew a female Shark produce eleven young at a time. Pennant is of opinion that the females, in all this tribe, are larger than the males; which circumstance, if confirmed by experience, would form a striking analogy between them and birds of prey.

The flesh of the Shark is scarcely digestible by any but negroes, who are excessively fond of it; it's liver affords a few quarts of oil; it's skin is with great labour polished into that substance called shagreen; and some imaginary virtues have been ascribed to it's brain.

**SHARK, ANGEL;** the *Squalus Squatinus* of Linnaeus. See **ANGEL**.

**SHARK, PICKED, PICKED DOG, OR HOUND-FISH;** the *Squalus Spinax* of Linnaeus. This species receives it's name from a strong sharp spine placed just before each of the back fins, which is it's distinguishing characteristic. It swarms on the coasts of Scotland, where it is split, dried, and eaten by the poorer class of people. The nose is long, extending considerably beyond the mouth, but blunt at the extremity; and the teeth are composed in a double row. The first dorsal fin is placed nearer the head than the tail; and the other is situated very near the latter. The tail is finned for a considerable space beneath; the back is of a brownish ash-colour, and the belly is white. Some of this species weigh twenty pounds.

**SHARK, LONG-TAILED;** called also the Sea-Fox, or Ape; the *Squalus cauda longiore* quam ipsum corpus of Arted. This fish is remarkable for the extreme length of it's tail: the body is round and short; the nose is also short, but sharp-pointed; the eyes, which are large, are immediately over the angles of the mouth; and the teeth are triangular, and placed in three rows. The back is ash-coloured, the belly is white; and the skin is wholly smooth.

The ancients denominated this fish *alotex*, and *vulpes*, from it's supposed likeness, believing that when it happened to swallow the bait, it continued to take in the cord till it could bite it through, and so escape! It is sometimes caught in



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in the British Seas. A specimen examined by Pennant was thirteen feet in length.

**SHARK, SPOTTED;** the *Squalus Canicula* of Linnæus. This species, called also the spotted dog-fish, is about four feet in length; the nose is short and blunt; the eyes are oblong, a large orifice opening behind each to the inside of the mouth; the teeth are small, sharp, and disposed in four rows; both the dorsal fins are placed much behind; and the tail is finned, extending below into a sharp angle. The whole upper part of the body and fins are brown, marked with numerous large distinct spots. Some parts of the skin are tinged with red; and the belly is white.

Pennant mentions a variety which he calls the lesser spotted Shark or dog-fish. It scarcely weighs two pounds; and is little more than two feet in length. The colours are nearly the same.

**SHARK, SMOOTH;** the *Squalus Mustelus* of Linnæus; called also the smooth hound. The nose of this species extends far beyond the mouth, and it's extremity is blunt. The first dorsal fin is placed midway above the pectoral and ventral fins; the tail is forked; and the teeth, which resemble those of a ray, are rough and sharp. The back and sides are ash-coloured, destitute of spots; and the belly is silvery.

**SHARK, BEAUMARIS.** This species was first observed by a gentleman of Beaumaris, from which place it has obtained it's distinctive appellation. It's length is seven feet; and it's greatest circumference is four feet eight inches. The nose is obtuse; and the mouth is armed with three rows of slender teeth, fixed to the jaws by certain muscles capable of erection or depression at pleasure. The first dorsal fin is of a triangular figure; the pectoral fins are large and strong; and the ventral and anal are small. The tail is semilunar; but the horns are of unequal lengths. The whole body is of a lead colour; and the skin much less rough than is usual in this genus.

**SHARK, BASKING;** the *Squalus Maximus* of Linnæus. A species long known to the inhabitants of the south and west coasts of Ireland and Scotland, and some parts of Wales. It quits the bays of Wales about Michaelmas; and the Frith of Clyde, and the Hebrides, about the end of July.

These animals possess nothing of the fierce and voracious nature of the Shark kind; but are so tame as to suffer themselves to be stroked; lying motionless on the surface of the water, as if fond of sunning themselves; from which circumstance they have obtained the appellation of Basking Sharks. Their food seems to consist entirely of marine plants; though Linnæus says that they subsist on medusæ. At certain times they are seen sporting on the waves, and leaping with surprising agility; though in general they swim deliberately, and with the dorsal fins above water.

Some of these fishes measure upwards of twelve yards. Their form is slender; the upper jaw is much longer than the lower, and blunt at the extremity; the mouth is placed beneath; and each jaw is furnished with numbers of small teeth. On the sides of the neck are five large transverse apertures to the gills. There are two fins on the back: the first, which is very large, is placed nearer the head than the middle; and the other is small, and situated near the tail. On the lower part of the body there are five other fins, two pectoral, two ventral, and one small anal fin, near

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these the male has two genitals, as is usual in Sharks; and between these fins the pudendum of the female is situated. The tail is very large, having the upper part much longer than the lower. The colour of the upper part of the body is a deep lead; the belly is white; the skin is rough like shagreen, but less so on the belly than on the back; and within the mouth, near the throat, there is a short kind of whalebone. The liver is prodigiously large; and, when melted, yields a pure sweet oil, fit for lamps, and sometimes used for medicinal purposes.

When these animals are struck by harpoons, and wounded, they sling up their tails, and plunge headlong to the bottom, coiling the ropes round them, and attempting to disengage themselves from the harpoons by rolling on the ground. They swim with such rapidity and force, that instances have occurred of vessels of sixty or seventy tons burden being towed away by them against a fresh gale; and they will sometimes occupy the fishermen a whole day before they are compleatly vanquished. A large fish yields about eight barrels of oil.

**SHARK, WHITE;** the *Squalus Carcharias* of Linnæus. This species, sometimes simply denominated the Shark, as being the most formidable of all others, is distinguished by Artedi under the appellation of the squalus with a flat back, and numerous teeth serrated at the edges.

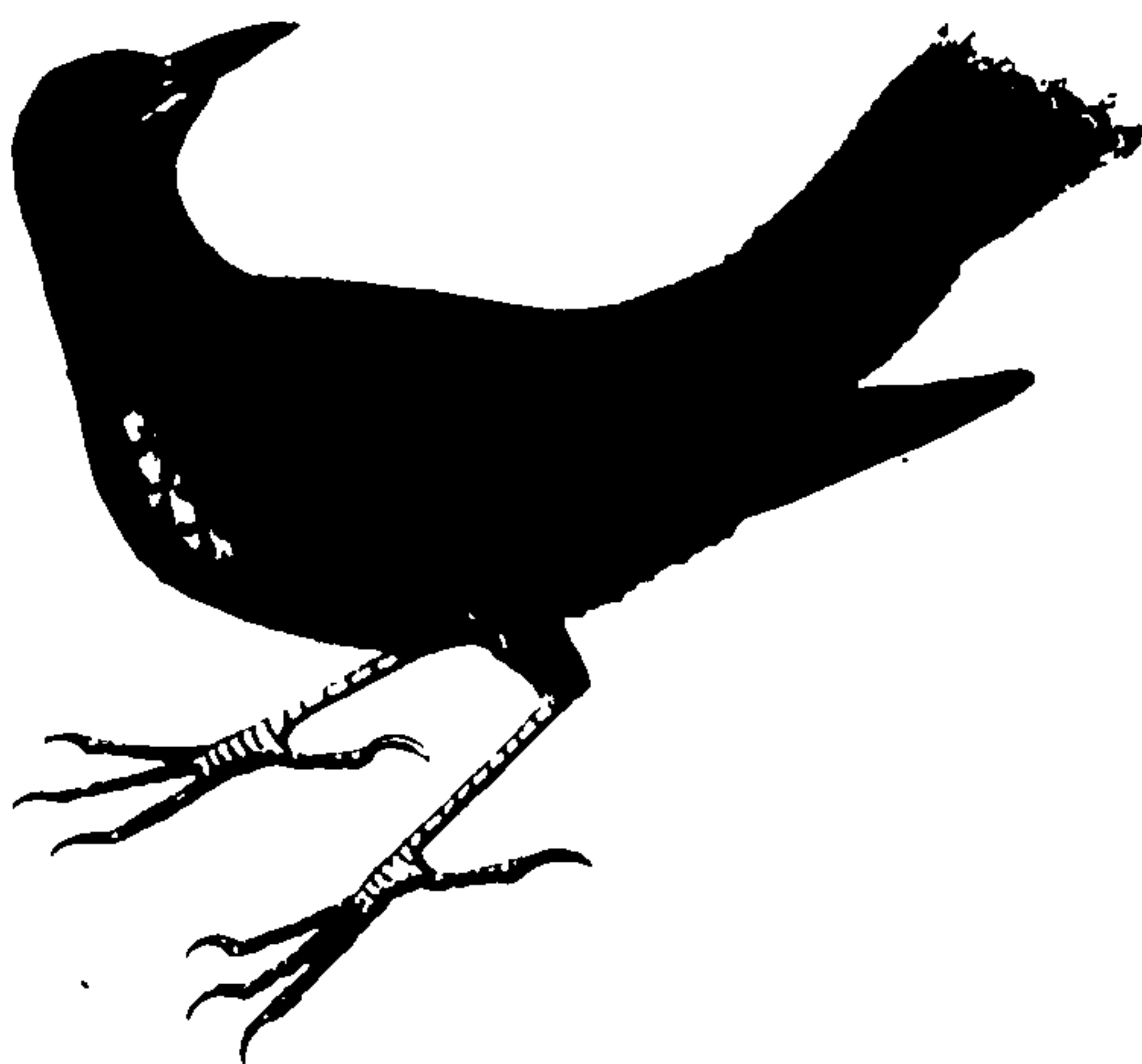
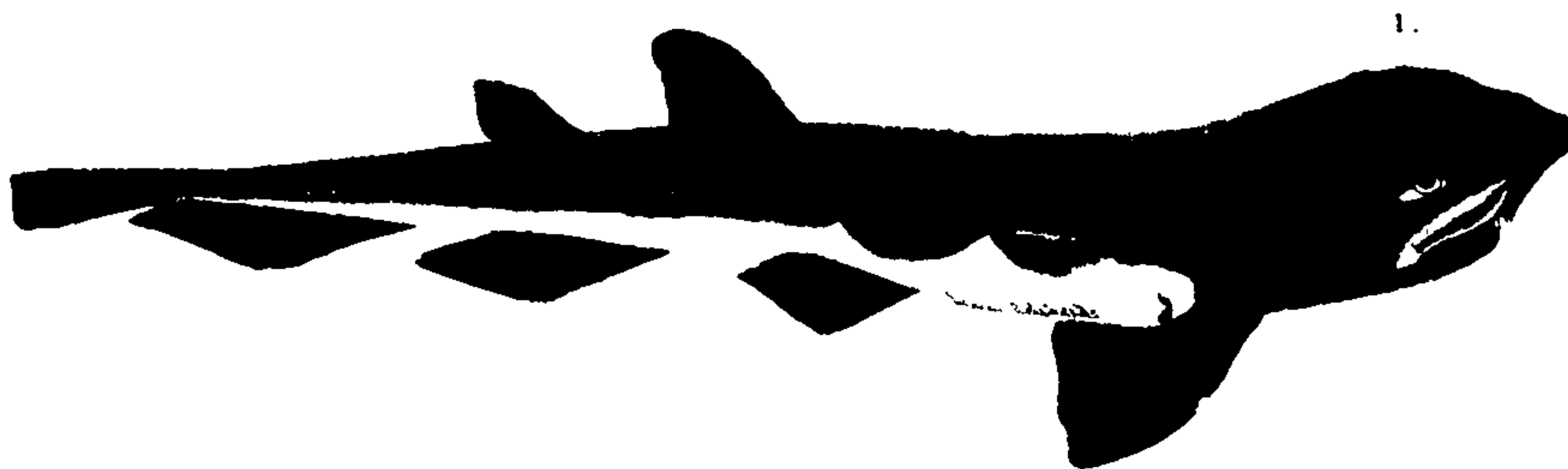
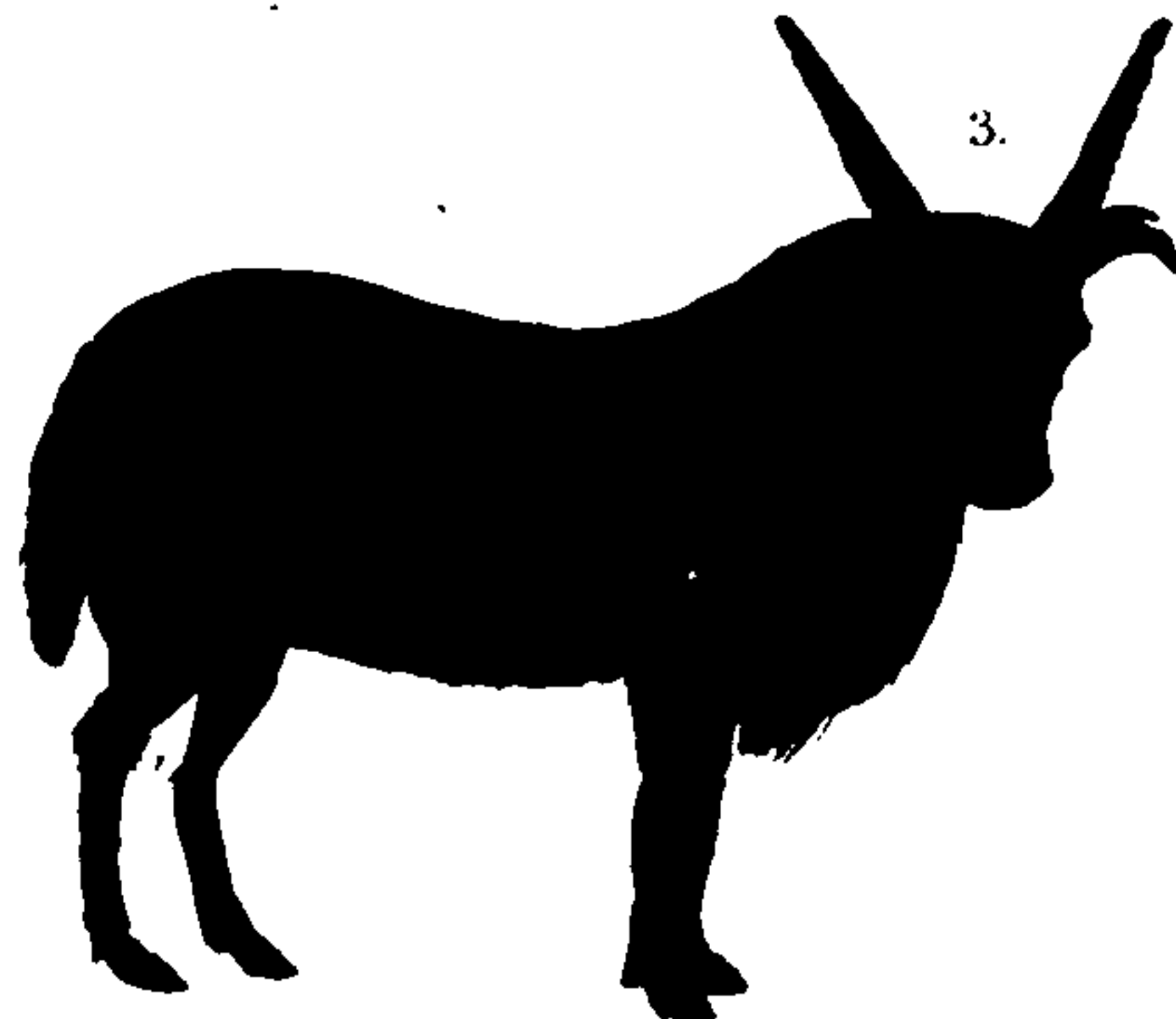
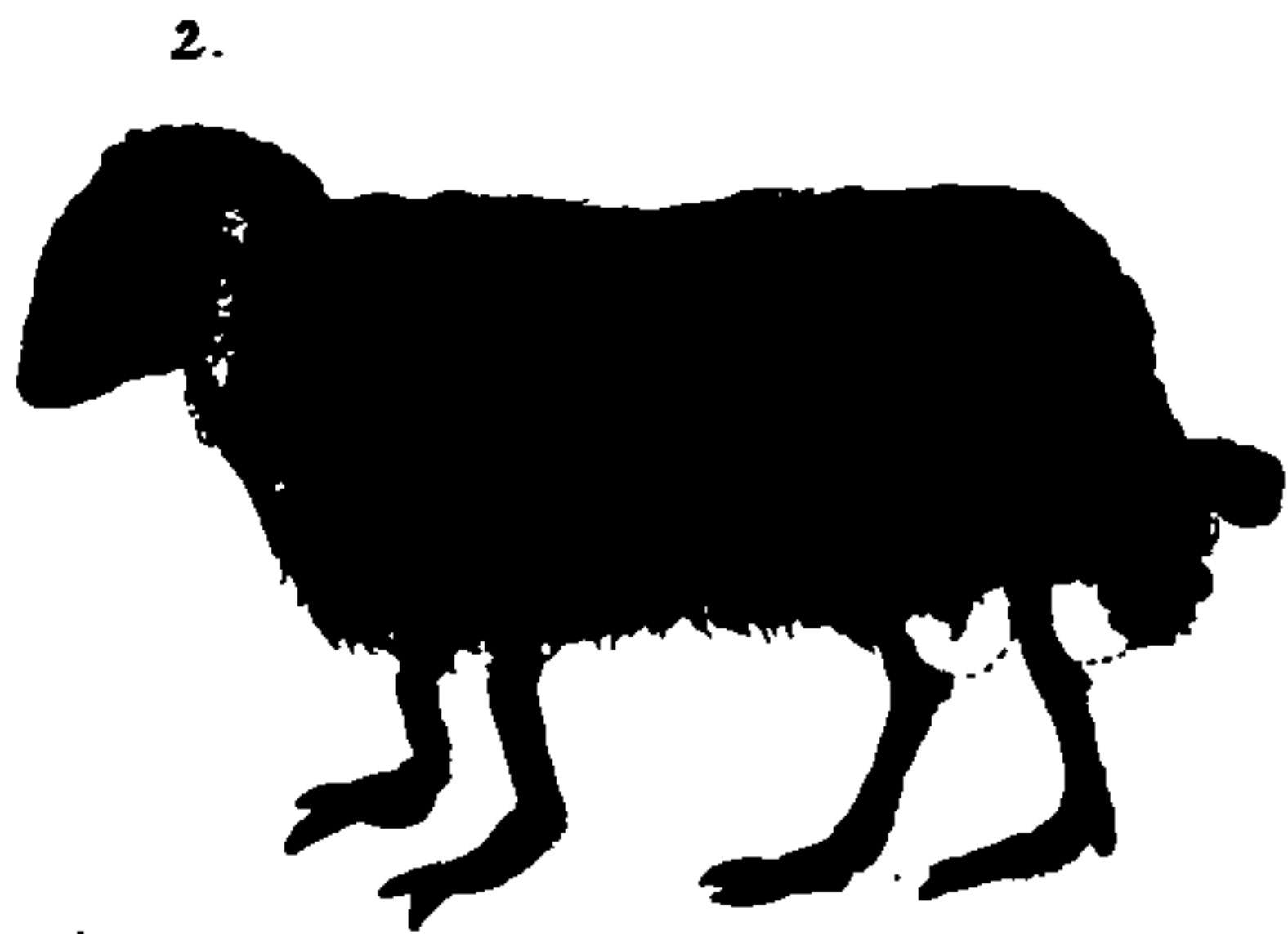
These Sharks are by far the largest as well as most terrible of the genus: some of them have weighed four thousand pounds; with throats wide enough to admit a full-sized man. For this reason some are of opinion that the prophet Jonah was swallowed by a fish of this kind, and not by a whale. Swimmers have frequently perished by their means; sometimes losing an arm or a leg; at others, being bit quite asunder; and indeed the entire bodies of men have been found in some of them when opened.

The teeth of this creature, which are very sharp and terrible, are disposed in six rows, all triangular, and serrated on their edges: these, in the whole, amount to one hundred and forty-four; and are placed in various directions. When the fish is in a state of repose, they lie quite flat in the mouth; but when he seizes his prey, they are erected by a set of muscles which unite them to the jaw. The mouth is placed far beneath; for which reason these Sharks, as well as the rest of their kind, are obliged to turn on their sides in order to seize their prey. The back is short and round. The tail is of a semilunar form, composed of two long fins: this member has surprising strength, and with it the animal strikes with great violence. The pectoral fins are large, and well adapted for rapid motion in the water. The whole body and fins are of a light ash-colour; the skin is rough; and the eyes are large and round.

The ancients were acquainted with this fish; and Oppian gives a circumstantial and entertaining account of it's capture. It's flesh is sometimes eaten; but it is esteemed rancid and coarse.

**SHARK, BLUE;** the *Squalus Glauco* of Linnæus. Artedi distinguishes this species by the name of the squalus with a triangular dent or fucus in the extremity of the back, and without any foramina about the eyes. The back is of a fine deep blue colour, and the belly of a bright silvery white; the skin is moderately smooth; the nose is long, pointed, and somewhat depressed, extending





1 SPOTTED SHARK 2 AFRICAN SHEEP 3 MANY HORNED SHEEP

4 SHIRLEY 5 SIYAH GIBSH



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tending far beyond the mouth; the nostrils, which are long, are placed transversely; and the tail is bifid, one part of it being considerably longer than the other.

This creature, which is extremely voracious of human flesh, is sometimes caught on the British coasts, particularly in Cornwall, during the pilchard season.

Ælian informs us, that this animal will permit the small brood, when in danger, to swim down it's throat, and take shelter in it's belly; and the fact has been confirmed by Rondeletius. Pennant, however, seems to think the care of their young is not peculiar to the Blue Shark, but common to the whole genus.

**SHARK, TOPE;** the *Squalus Galeus* of Linnæus. See **TOPE**.

**SHARPLING.** An English appellation for the gasterosteus. See **STICKLEBACK**.

**SHEAR WATER;** the *Porcellaria Puffinus* of Linnæus. This bird, called also by some naturalists the *Avis Diomedis*, is about fifteen inches long, and thirty-one broad. The bill is one inch and three-quarters long; and the nostrils are tubular. The head, the whole upper part of the body, the wings, tail, and thighs, are of a sooty blackness; the under-side from chin to tail, as well as the inner coverts of the wings, are white; and the legs are slender, compressed sideways, dusky behind, and whitish before.

These birds frequent the Calf of Man in February, take possession of the rabbit-burrows, and then disappear till April. The young ones, which are fit to be taken about the beginning of August, or the end of July, are killed in great numbers, salted, and barrelled; and, when boiled, eaten with potatoes. They quit the isle the latter end of August or beginning of September; and from many circumstances it may be conjectured that they are dispersed over the whole Atlantic Ocean, like the storm-finch. In the Orkney Isles, this species is denominated the lyre; and there both it's flesh and feathers are extremely valued.

**SHEAT-FISH.** This fish, which is a species of silurus, sometimes weighs upwards of one hundred and fifty pounds. In the Vistula, which falls into the Baltic, some have been caught measuring sixteen feet in length, and twenty-seven inches in breadth. The back is dusky, like that of an eel; and the belly and sides are variegated with white and black spaces or large spots. The body is slippery, being covered with slime, without any visible scales; the head is very broad and flat; the mouth extremely wide; the body is thick and roundish to the vent; but the lower part of the belly is flat. In the upper jaw, before the eyes, there are two very long and hard barbs; and four more depend from the lower lip, but more slender and short. The mouth is destitute of teeth, properly so called; but the lips both above and below, as well as the palate, are rough like a file, and answer the purposes of teeth. There is only one very small dorsal fin, consisting of no more than three nerves; and a long fin runs from the vent to the tail, which joins to each gill-fin.

This fish is found in several lakes and rivers of Germany, usually keeping close to the bottom; and is extremely voracious, making dreadful havoc among the inferior fry. It is held in pretty high estimation; and is dressed after the same manner as the eel.

**SHEEP.** In the Linnæan distribution of na-  
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ture, a distinct genus of the order of pecora. The distinguishing characters are: the horns are hollow, bent backwards, wreathed, crooked, and scabrous externally; there are eight cutting-teeth in the lower jaw, but none in the upper; and no canine teeth.

Linnæus enumerates three species; the *ovis aries*, or ram Sheep; the *ovis Guineensis*, or Guinea Sheep; and the *ovis Sterpsiceros*, or Cretan Sheep. However, though the varieties are extremely numerous, they may all be deduced from the *ovis aries*.

Sheep, in their present domestic state, are of all animals the most innocent and defenceless. Destitute of every quality necessary to self-preservation, they endeavour to fly without swiftness, and to oppose without strength. These feeble efforts serve only to excite the insults of their enemies. The dog pursues the flock with greater delight on seeing them fly, and attacks them with more ferocity from their unsupported attempts at resistance; while they keep together rather with the hopes of avoiding their single danger in the crowd, than of uniting to repress the attack by dint of numbers. Were the Sheep therefore exposed in it's present state to struggle with it's natural enemies of the forest, it would soon be extirpated. Loaded with a heavy fleece, deprived of the defence of horns, and rendered slow, heavy, and feeble, it finds no other safety than what it derives from man; and must now rely solely on that art for protection to which it originally owed it's degradation.

But nature is not to be blamed for the production of an animal so utterly incapable of defending itself. The moufflon, which is the Sheep in a savage state, is a bold and fleet animal; it can escape by it's swiftness from the most powerful of it's enemies; and to the weaker it can oppose the arms with which it is provided by nature. Human art alone has rendered the Sheep that tardy, defenceless creature, we now find it. Every race of quadrupeds might easily be corrupted by the same allurements with which the Sheep has been thus debilitated and depressed. While undisturbed, and properly supplied, none of them know any bounds to their appetites: they all pursue their food while able, and continue to graze till they often die of disorders arising from obesity. But, in a state of nature, it is far otherwise: they are then surrounded with dangers in the forest, and alarmed with unceasing hostilities; they are daily pursued from one tract of country to another; and spend a considerable part of their time in attempting to avoid their foes. By this exercise, and a continual practice of the arts of defence and escape, they preserve their lives and native independence, as well as their fleetness and activity.

In it's servile state, the Sheep appears to be the most stupid of all animals. Every other quadruped has a peculiar turn of countenance, which generally marks it's nature: but the Sheep seems to have none of those traits which indicate either courage or cunning; it appears a large mass of flesh, supported on four small straight legs, ill-adapted for supporting such a burden; it is awkward in it's motions, easily fatigued, and frequently sinks under the weight of it's own corpulency. Such Sheep as feed on the most luxuriant pastures, are duller and heavier than others, becoming entirely feeble; those without horns are also more sluggish than the rest; and such as have the longest and finest fleeces, are subject to the greatest num-



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ber of disorders. In short, all the changes which have been wrought in this animal by human industry, are calculated for the benefit of mankind, and not for that of the creature itself.

The goat, to which the Sheep bears such a striking resemblance, is greatly it's superior. The former has it's particular attachments; and, being apprehensive of danger, endeavours to avoid it: whereas the latter is timid without a cause, and secure when threatened by real danger. The Sheep is equally absurd when bred up tame in the house, and familiarized with it's keepers: it then becomes mischievous; butts with it's head; and thus evidences it's unworthiness of being singled out from the flock.

It is indeed very evident that Sheep are better adapted for the necessities than the amusements of mankind: and only one single instance of their testifying any attachment to their keepers has yet come to our knowledge. In many parts of the Alps, and even in some provinces of France, the shepherd and his pipe are still continued. The flock is penned every evening, in order to preserve them from wolves; and at sun-set the shepherd returns homeward, with his Sheep following him, seemingly delighted with the sound of the pipe, which is blown with a reed. Thus the Arcadian life is still preserved, in all it's ancient purity, in those countries where opulence has not effaced the traces of nature; but where a greater inequality of condition prevails, the shepherd is generally some mercenary wretch, who for a paltry pittance only guards those flocks in which he has no personal interest.

If we consult early writers, it will appear that the breed of these animals was not cultivated among the Britons. The inhabitants of the interior parts of this island appeared either entirely naked, or were only covered with skins. Those who lived on the sea-coasts, and were first remarked for some degree of civilization, affected the manners of the Gauls; and, like them, wore a sort of garments fabricated of coarse wool: these were probably manufactured by the Gauls; as, in the histories of those times, there is not the smallest vestige of any manufactures among the Britons. Nor need this negligence be deemed matter of surprise, if we reflect that they were an uncivilized nation, with but few wants, and those easily satisfied. But it must be allowed an unaccountable circumstance, that after the breed had been long cultivated, and their fleeces confessedly superior to those of other countries, no efforts were made to promote a woollen manufacture at home: that valuable branch of business lay a considerable time in foreign hands; and we were obliged to import the very cloth manufactured from our own materials. After many unavailing efforts of our sovereigns to introduce and preserve the manufacture at home, King Henry II. granted a patent to the London weavers; wherein he directed, that if any cloth was discovered to be composed of a mixture of Spanish wool, it should be burned by the mayor. Notwithstanding this injunction, the weaving business advanced so slowly, that Edward III. was obliged to permit the importation of foreign cloth at the beginning of his reign: but, shortly after, by encouraging foreign artificers to settle in England, and instruct the natives in their trade, the manufacture so far increased, as to enable him to prohibit the use of foreign cloth.

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Many salutary edicts, promulgated at succeeding intervals, operated by degrees towards the establishment of this valuable trade among us. But the full dawn of it's prosperity is to be dated from the reign of Queen Elizabeth, when the tyranny of the Duke of Alva in the Netherlands drove numbers of artificers into this country for an asylum, who well repaid the protection they received by founding that immense manufacture we at present carry on. However, it is the opinion of many judicious persons, that our woollen manufacture is now on the decline; and that the cloth now made is inferior, both in fineness and durability, to what it formerly was.

But no country on earth is so well supplied with every sort of materials necessary in the cloathing business as Britain; and though the Sheep of this island afford fleeces of very different qualities, they are all serviceable in some particular branches of it. The counties of Hereford and Devon, and the Colswold Downs, are celebrated for producing fleeces of an excellent quality. Lincolnshire and Warwickshire breed very large Sheep, whose fleeces excel both in quantity and value. Lincolnshire indeed yields the largest Sheep in Great Britain; and in that county it is not uncommon to pay down fifty guineas for a ram, in order to improve the breed. The fleeces of the northern parts of this kingdom, are inferior to those of the south. The Yorkshire hills furnish the looms of that county with great quantities of wool; and that taken from the neck and shoulders is mixed with Spanish wool, and used in some of their finest cloths.

Wales produces a coarse wool, but more extensively beneficial than the finest fleeces of Spain; being manufactured into flannel, the utility and general consumption of which are too obvious to be insisted on.

The Sheep of Ireland, like those of Great Britain, are found to vary. Those of the south and east are large, and their flesh is rank; while those of the north and the mountainous parts are small, and their flesh is sweet. The fleeces also differ in proportion.

Scotland yields a small breed, with coarse fleeces. Boethius mentions a singular species, with blue fleeces; and also two other kinds: but this credulous author is the only one of antiquity who relates such a circumstance.

Few parts of the Sheep are useless in human economy. The value of the fleece is well known; the flesh is delicate and wholesome; gloves and different parts of our apparel are made from the skin, as well as parchment and the covers of books; the entrails are formed into strings for various musical instruments; the milk is thicker than that of the cow, and consequently yields a larger quantity of butter and cheese; and the dung proves so rich a manure, that the folding of Sheep is become too valuable a consideration in agriculture to be overlooked by the farmer.

Whether we consider the advantages which result from those creatures to individuals in particular, or to kingdoms in general, we may with Columella regard animals of the Sheep kind as deserving the first rank with respect to utility; for they principally defend our bodies from the rigours of the cold, and furnish our tables with various agreeable repasts. No country, however, produces such Sheep as England, either with larger fleeces, or better adapted for the cloathing manufactory.



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manufactory. Spanish fleeces are indeed finer, and some of their wool is generally necessary to work up with our own; but the weight of a Spanish fleece stands in no degree of competition with one of Lincolnshire or Warwickshire.

Like all other ruminant animals, Sheep are destitute of upper fore-teeth; but they have eight in the lower jaw: two of these teeth drop, and are replaced at the age of two years; four of them at that of three years; and the mouth is full at the age of four years. Some Sheep, however, there are in England, to which shepherds give the appellation of leather-mouthed cattle, because they never change their teeth; and they are generally supposed to grow old sooner than the rest.

Sheep produce one or two lambs at a time; and sometimes three or four. The first lamb of an ewe is generally less valuable than those of a second or third production; and the third is always deemed the best. The time of gestation is five months; and, if housed, they will bring forth at any season of the year.

The woolly Sheep, such as those of this kingdom, are found only in Europe, and some of the temperate Asiatic provinces. When transported into warmer countries, their wool degenerates into hair, and their flesh assumes a different flavour. In extreme cold countries, they seem equally helpless and strange; and though they subsist both in Guinea and Greenland, they do not appear to be indigenous to either.

Rams sometimes live fifteen years, and begin to procreate at the age of one year. When two of these animals meet, they sometimes engage very fiercely, butting each other with their heads and horns. When castrated, they are called weathers; and then they become larger and fatter, at the same time that their flesh acquires an additional flavour.

Ewes are said to live ten years; but they seldom attain that age: and it is remarkable that every ewe knows her own lamb in the largest flocks, where a spectator could not distinguish one from another.

Sheep will thrive on almost any pasturage; and for that reason they are by many preferred to the larger cattle.

The farmer should always purchase his Sheep from a soil inferior to his own; and the marks by which their goodness may be known, consist in the largeness of their bones; as well as the length, oiliness, and close twist of their wool: these Sheep always bear the finest fleeces, and are the most saleable in the markets.

Rich fat pastures breed straight, tall Sheep; barren hills and downs, square short ones; woods and mountains, tall and slender Sheep; but new ploughed land and dry grounds breed the very best. On the contrary, all wet and moist lands are improper for Sheep; especially such as are subject to be overflowed, and to be covered with sand and dirt. Salt marshes, however, are an exception to this general rule; for their saltiness amply counterbalances the ill effects of their moisture; and they are generally considered as the most desirable of all others for the breeding of these animals.

Feeding Sheep with turnips is one of the most beneficial plans adopted by farmers: independent of the manure they leave on the ground, these roots fatten them with the greatest expedition;

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and therefore the most approved methods of using them cannot fail of proving acceptable to the reader.

The common way of turning a flock of Sheep into a field of turnips, in some places, is very disadvantageous; for they will thus destroy as many in a fortnight as would have supported them for a whole winter. But each of the three subsequent methods has its peculiar advantages.

The first consists in dividing the land by hurdles, and allowing the Sheep to over-run such a portion only at a time as they can eat in one day; and so advancing the hurdles farther into the ground daily till the whole is consumed. This mode is infinitely better than allowing them the range of the whole field at once; though even in this way they never eat the turnips clean; but, scooping out their middles, leave the bottoms and outsides in the ground: these remains are to be pulled up with iron hooks, and laid again before the Sheep; but they are generally so covered with dirt, that only a very small portion of them will be eaten.

The second method directs the enclosing the Sheep in hurdles, as in the former; but, in this, as many turnips are daily pulled up as the Sheep can eat in one day; and the hurdles are daily removed over the ground whence the roots have been pulled up: by this means there is no waste, and less expence; for one person may in two hours pull up as many turnips as the remnants alone would employ a labourer for a whole day.

The third method consists in pulling up the turnips, and removing them to some other situation where manure is wanted, spreading them on a fresh place every day; and by that means the Sheep will eat up both roots and leaves without any waste. This plan is sometimes the most advantageous of any: but in such matters the discretion and experience of the farmer will perhaps be the safest directory.

‘To compose a flock,’ says Buffon, ‘from which a reasonable profit may be expected, Sheep and weathers must be purchased of about eighteen months, or two years old; and one shepherd, if careful, and assisted by a good dog, may take care of an hundred. In leading them out to pasture, he should go before them, and accustom them to know his voice; to follow him without stopping, or straying among the corn, woods, or fallow-lands, where they would do damage. The places that best agree with them are downs, and small eminences: low, wet, and marshy grounds, should be avoided.

‘In dry and high grounds, especially if the herbage abound in wild thyme, and other odorous plants, the mutton is of a much finer quality than that which is fed in moist valleys and low plains; unless those valleys are sandy, and near the sea; the herbage then being sprinkled with salt, the Sheep fed in such situations are superior to all others. The ewes also fed in them, yield more milk, and of a better flavour.

‘Sheep are remarkably fond of salt, and nothing is more salutary for them when given in moderation; and in some places it is customary to put into the Sheep-cot a bag of salt, or a saline stone, which they all eagerly lick one after another.

‘Every year, those which begin to grow old should be separated from the flock, for the purpose of fattening, because then a different management



management is necessary. If in summer, they should be conducted to the field before sun-rising, and they may feed on grass moistened with dew. Nothing contributes more to the fattening of animals than water taken in large quantities; and nothing retards it more than the heat of the sun. For this reason, they should be put into the fold or shade about eight or nine o'clock in the morning, before the heat becomes too violent; and they ought to have a little salt to encrease their appetite for drink. They should be led out a second time, about four o'clock in the afternoon, to fresh and moist pastures. By this treatment they acquire, in two or three months, all the appearances of being fat and fleshy. But this fat, which originates from the great quantity of water drank by the animals, is only a kind of purly swelling, and would soon occasion the rot, if not prevented by killing them immediately after they acquire this fallacious appearance. Even their flesh, instead of being firm and juicy, is frequently very loose and insipid. To produce good mutton, besides the treatment already recommended, the animals should have richer nourishment than grass. In winter, and indeed in all seasons, they may be fattened by keeping them in stables, and feeding them with the flour of barley, oats, wheat, beans, and other grain, mixed with salt, to encrease their appetite for water. But whatever mode be followed, it should be executed as quickly as possible; for they cannot always be fattened twice, many that have been once in good condition dying of diseases in the liver.

Every year the whole flock, weathers, ewes, and lambs, are sheared. In hot countries, where the creatures may without danger be laid quite bare, they do not shear the wool, but tear it off; and this operation is performed twice a year. But in France, and in colder climates, the fleece is shorn only once a year; and a part of it is allowed to remain, in order to protect the animal from the inclemency of the weather. The operation is performed in the month of May, after washing the Sheep, to render the wool as clean as possible. The month of April is generally too cold; and if delayed till the end of June or the beginning of July, the wool does not grow sufficiently long to protect the animal from the cold of winter. Weathers have generally more wool than ewes, and it is also of a superior quality: that on the neck, and the top of the back, is the prime; that of the thighs, tail, belly, and throat, is inferior. White wool is also preferred to brown and black, as it will admit of any dye. Straight wool is better than curled; and it is even alledged, that weathers whose wool is too much curled, are not in such a sound state of health as the rest.

A considerable advantage may also be derived from Sheep by folding them; that is, by leaving them for a proper time on lands intended for improvement. In order to this, the ground must be inclosed, and the flock shut up in it every night during summer. By this means the dung, urine, and heat of the body of these creatures, will in a short time bring the ground into heart, whether exhausted, or naturally cold and barren. An hundred Sheep will in one summer fertilize eight acres of land for six years.

The flavour of the flesh, the fineness of the wool, the quantity of the suet, and even the size of these animals, differ very widely in different countries. In France, they chiefly abound in the

Duchy of Berry; those in the vicinity of Beauvais, and some other parts of Normandy, are the largest, and richest of suet. In Burgundy, they are excellent, but the best are those that feed on the sandy coasts of our maritime provinces. The wools of Italy, Spain, and England, are finer than those of France. In Poitou, Provence, the neighbourhood of Bayonne, and some other parts of France, there are Sheep which seem to be of a foreign breed; they are stronger, larger, and produce a great deal more wool than the common sort. These Sheep are also more prolific than the other; it being nothing extraordinary for them to produce two lambs at a time, and to yearn twice a year. The rams of this breed, engendering with the common ewes, produce an intermediate breed, partaking of the two from which it proceeds. In Italy and Spain, the number and variety in the breeds of Sheep [and he might have added, in England too] is still greater; but all must be considered as forming one and the same species with our Sheep; though this species, so numerous and so diversified, hardly extends beyond Europe. Those long and broad-tailed creatures, so common in Africa and Asia, and by travellers called Barbary Sheep, seem different from ours, as well as the American Vigonia and Llama.

A few of the most remarkable varieties in this useful tribe, which is so widely disseminated over the globe, and so largely contributes to the happiness and accommodation of mankind, now claim a description.

**SHEEP, MANY HORNED;** the *Ovis Polycerata* of Linnæus. This variety, which is found in Iceland, Muscovy, and the coldest climates of the north, certainly derives it's origin from the domestic kind. It resembles our breed in the shape of it's body and tail; but differs considerably in the number of it's horns: these are generally four; though there are sometimes eight, proceeding from different parts of the forehead.

This animal is large and formidable; and nature seems to have adapted it for a state of war: nevertheless, it partakes of the nature of it's kind, being gentle, mild, and timid. The wool, which is long, smooth, hairy, and very different from that of the common Sheep, is of a dark brown colour; and under it's exterior coat there is an internal covering, fine, short, and soft, rather resembling fur than wool.

There is a variety from Spain having two upright and two lateral horns; the body covered with wool; and yellowish hairs, fourteen inches long, growing in the fore-part of the neck. A Sheep of this kind was a few years ago exhibited in London.

**SHEEP, BROAD-TAILED;** the *Ovis Laticauda* of Linnæus. The Broad-tailed Sheep is very common in Tartary, Arabia, Persia, Barbary, Syria, and Egypt. This animal is principally remarkable for it's large, heavy tail, which often weighs from twenty to thirty pounds; and, according to Pennant, now and then fifty pounds: it is sometimes a foot broad; and usually supported by a small board, which runs on wheels; whence arose the fiction of these animals having carts to carry their tails. The upper part of the tail is covered with wool; but it is bare underneath: the natives, who reckon it a great delicacy, carefully preserve it from injury; and being of a substance between fat and marrow, they eat it with the lean of the mutton.



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In the temperate climates, the fleeces of these Sheep are soft and woolly; but hairy in the warmer latitudes. In Aleppo and Syria, they are usually kept in yards, purposely to prevent their tails being damaged.

Broad-tailed Sheep are also found in the kingdom of Thibet; where their fleeces, with respect to fineness, beauty, and length, equal the so much celebrated ones of Caramania. The Cachemirians engross the whole trade; and employ factors in all parts of Thibet to buy up their wool, which is manufactured into shawls, superior to those woven from the fleeces of their own country.

Both the Broad-tailed and Long-tailed varieties were known to the ancients.

**SHEEP, FAT-RUMPED, TAILLESS.** This variety abounds in all the deserts of Tartary, from the Wolga to the Irtis, and the Altaic Chain. They have arched noses, wattles, pendulous ears, and horns like the domestic kind. Their wool is long, coarse, and in flocks; generally white; but sometimes black, reddish, and often spotted. The legs are slender; the head is black; and the ears are of the same colour, with a bed of white in the middle. The buttocks, which appear like two hemispheres, quite naked and smooth, are composed of suet only, whence Pallas properly styles this variety *Ovis Steatopyges*; and their voices, which are short and deep, rather resemble those of calves than Sheep.

**SHEEP, CRETAN;** the *Ovis Sterpsiceros* of Linnæus. These Sheep, which are found in Crete and other islands of the Archipelago, differ from the domestic breed only in having straight spiral horns, surrounded with a winding furrow. Buffon has figured this variety, which Linnæus makes a distinct species, under the appellation of the Wallachian Sheep.

**SHEEP, AFRICAN;** the *Ovis Guineensis* of Linnæus. This variety, which Linnæus considers as one of his three distinct species, is commonly called the Guinea Sheep; and is a native of all the tropical climates, both of Africa and the East. It is large, with a rough hairy skin, short horns, and long pendulous ears. Under its chin there is a kind of dewlap; and it has a long mane, which reaches below the neck. Its shape indeed is so different from the rest, that it might be considered as a different breed, did it not generate with the common Sheep.

Of all the domestic kinds, the African Sheep seem to make the nearest approaches to a state of nature. They are stronger, larger, and swifter, than the common breed, and therefore better adapted to a precarious forest-life. Like the rest, however, they seem to rely on man for their support, being wholly of a domestic nature, and subsisting only in the warmer climates. Their flesh is very indifferent food.

**SHEEP, WILD;** the *Capra Ammon* of Linnæus. See **MOUFFLON**.

**SHEEP, BEARDED.** See **TRAGELAPHUS**.

**SHEEP NOSE-WORMS.** A species of fly-worm found in the noses of Sheep, goats, and stags; generated there from the egg of a large two-winged fly. This creature, after it has attained its most perfect state, leads a very indolent life, neither delighting to use its legs nor its wings.

It lives about two months, after it is first produced, without receiving any kind of nourishment; and possibly may be of the same nature with the butterflies, which never take any food during their continuance in that state.

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The frontal sinuses above the nose, in sheep and other animals, are the places where these Worms lodge, and attain their full growth. These sinuses are always replete with a kind of matter, which furnishes them with their proper nourishment; and having reached the destined size in which they are fit to undergo their transformations for the fly state, they quit their former habitation, fall on the earth, and there bury themselves. When hatched into flies, the female, after being impregnated by the male, from a natural instinct, seeks the nose of a sheep, or other animal, as a place of security in which she may deposit her eggs, in order to their acquiring maturity.

**SHEEP-TICK.** A well-known insect, extremely common in pasture-grounds about the commencement of summer. The body, which is very compressed and smooth, is covered with a tough skin; and the shape is somewhat quadrangular. The colour is a shining black, or a blackish brown. When this insect fixes its head in the skin of any animal, and particularly the sheep, it extracts the blood; and in a short time swells, and becomes very large and round. Sometimes also it sucks the blood of the human species, adhering to the skin with great tenacity.

Moufet informs us, that some have mistaken this creature for the sheep-louse, from which it differs very considerably; for the sheep-louse has a longer snout; and the body is never so much swelled with blood as that of the Sheep-Tick, continuing always flat: besides, the feet are of a dark reddish colour; the back is cinereous, marked with three very minute blackish points; and the shape of the body is cordiform. The sheep-louse will sometimes live in a fleece for a whole year after it has been separated from the body; an evident proof that blood is not essential to its existence, though it seems to suck out the blood by fits when an opportunity offers.

**SHELL.** A hard, calcareous crust, serving to cover and inclose a kind of animals, which have thence received the appellation of testaceous.

In order to give a distinct idea of the manner in which Shells in general are formed, we must have recourse to an animal with the formation of whose covering we are best acquainted: this is the garden-snail, whose history Swammerdam has so minutely described. As the manner of the formation of this creature's Shell extends to that of all other testaceous creatures, whether they live on land or in the water, it may not be unentertaining to set it in as clear a light as possible, beginning with the animal in its earliest state, and tracing the progress of its Shell from the time it first appears.

The instant the young snail quits the egg, it carries its Shell on its back; and does not leave the egg till it is arrived at a certain growth, when its little habitation is sufficiently hardened. This beginning of the Shell is not much larger than the head of a pin; but grows in a very rapid manner, having at first but two circumvolutions. In proportion as the animal grows larger, the circumvolutions of the Shell encrease also; till the number of these volutes amounts to five, which is the full number.

The mouth is the part whereat the animal enlarges its shell: to this it adds in proportion as it finds itself straitened beneath; and, when about to extend its habitation, it may be seen biting and clearing away the scaly skin that adheres to the edges



edges with it's little teeth. It sometimes devours those fragments; at others, it only cleans away the margin, when covered with films, and then adds another rim to it's abode.

The manufacture of the Shell is natural to the snail, and without it the inclosed animal could not long exist. For this purpose, it's whole body is furnished with glands, from the orifices of which exudes a kind of slimy fluid, like the threads of small spiders, which unite in one common crust or surface, and in time condense, and acquire a stony hardness. It is this slimy humour that grows into a membrane, and afterwards a stony skin: nor can the glistening substance the snail leaves behind it have escaped the observation of the most incurious; this being in reality the matter with which the animal either augments it's Shell or repairs it's defects.

To explain the method in which the Shell is formed in a still more satisfactory manner. The snail bursts from it's egg with it's Shell on it's back: this Shell, though very simple, is the centre round which every succeeding convolution is formed, by new circles added to the former. As the body of the snail can be extended only towards the aperture, the mouth of the Shell alone can receive augmentation. The substance of which the Shell is composed is chiefly supplied by the animal itself; and is no more than a slimy fluid which gradually indurates. This fluid passes through an infinite number of minute glands, till at length it arrives at the pores of the skin; but there it is impeded by the Shell which covers the part below, and therefore is protruded towards the mouth, where alone it is necessary: there the first layer of slime soon hardens; and then another is added, which indurates also; till in time the Shell receives an adequate degree of strength for the preservation of the animal. Thus every Shell may be considered as a composition of layers of slime, originally proceeding from the creature's own body.

But though the formation of Shells is generally accounted for in the foregoing manner, it has been supposed by some, and with apparent reason, that there are other substances besides the animal's own slime which assist the fabric of the Shell, or at least add to it's external coat, which is always different from the internal one: these are accidental concretions of earthy or saline particles, which adhere to the slimy matter on it's first emission. By adopting this theory, we can more satisfactorily account for the various colours of the Shell, which cannot be supposed to derive it's tincture from the animal's body, as is the vulgar opinion; for all the internal parts of the Shell are of one uniform white colour; and it is only the outermost layer that is so beautifully varied, and so richly tinted with the most vivid colours. If, as Argenville asserts, the external coat be scaled off, all the inner substance will be found of one simple colouring; consequently, the animal's own juices can afford only one colour; whereas we frequently see Shells stained with an infinite variety.

If we examine the cabinets of the curious, we shall find the Shells in general furnished with a white ground, tinted with red, yellow, brown, green, and several other shades and pleasing mixtures, but never blue. Indeed, Shells are of almost every tinge but blue; the reason of which is obvious, that being the only colour which sea-water annihilates. A piece of silk, or a feather of

this colour, on being put into an infusion of salt, urine, or nitre, loses it's tint entirely. And may not this furnish us with an idea of the operations of Nature in the colouring of her Shells? that, in order to produce colour, the animal not only furnishes it's juices, but the sea or the earth that commixture of substance which is to unite with them. Neither the animal slime alone, nor the external earthy or saline substances individually, could produce colours; but both united yield an effect which neither singly possessed. Thus Shells assume every colour but blue; and that, as previously remarked, is destroyed by sea-water. Hence therefore it appears that the animal alone does not tincture it's Shell; but that external causes co-operate in contributing to it's beauty. It is probable that, from the nature of it's food, or other unknown circumstances, the external layers of it's slime may be of different consistences, so as to assume various and beautiful hues when united with the particles of earth or salt accidentally incorporated with them from without. But the internal layers, which receive no adscititious admixture, still preserve the natural colour of the animal, and continue white without any variation.

Thus far we may discover that the animal is not the sole agent in the beauty and colour of it's Shell. But it seems otherwise with regard to it's convolutions, it's prominences, and general form: these entirely depend on the art of the animal; or rather on it's instincts, which, in the same kinds, nature has rendered invariable. The Shell generally bears some rude resemblance to the body on which it has been moulded. Thus it is observable in all marine Shells, that if the creature has any tumour or excrescence on it's body, it occasions a prominence likewise in that part of the incrustation to which it corresponds. When the animal begins to alter it's position, and to make new additions to it's apartments, the same protuberance which had raised the Shell before in one part, swells it again at some little distance; by which means we perceive the same inequality, in a spiral line, all round the Shell. Sometimes these tumours in the creature are so large, or pointed, that those which rise over them in the incrustation appear like horns: after this, the animal disengages itself from it's first cavities; and then, by fresh evacuations, assumes a new set of horns; and so increases the number in proportion to it's growth. If, on the other hand, the body happens to be channelled, the Shell that covers it will be channelled likewise; and if there be any protuberances in the body, which wind about it in a spiral manner, the Shell will likewise have it's tumours and cavities winding round to the extremity.

In this manner the Shells are as various in their figures as the inclosed animals are different. Indeed, the diversity is so great, and the figures and colours are so very striking, that several persons have made the arrangement of them the study and business of their lives. Those who consult their beauty only, take care to polish them, and to have their external crust or periosteum scoured off by means of spirits of salt. But others, with more learned affectation, keep them exactly in that state in which they were found, with their precious crust still untouched. The expence which some persons have been at in making such collections is unbounded; and some Shells are no less valuable



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inable for their rarity than pearls for their beauty. Indeed, it is their scarcity, and not their beauty, that determines the value of all natural curiosities. Such Shells as present nothing attractive to the ignorant, are often the most precious; and those which an unlearned spectator would consider with admiration, an adept in conchology would probably pass over with disdain. These collections, however, have their uses; not only by exhibiting the vast variety of nature's operations, but also by exciting our curiosity to the consideration of those animals that form them. The mind which can find innocent entertainment in those humble contemplations, is not ill employed: for what can be more gratifying, says Pliny, than to view Nature in all her irregularities, and sporting in all her variety of Shells! Such a difference of colour do they exhibit; such a distinction of figure; flat, concave, long, lunated, circular, the orbit divided: some are seen with a rising on the back, some smooth, some wrinkled, toothed, streaked, the point variously intorted, the mouth pointed like a dagger, folded back, and bent inwards: all these variations, and many more, at once furnish novelty, elegance, and speculation.

With respect to the figure of Shells, Aristotle has very judiciously divided them into three kinds; and his method is, of all others, the most consonant to nature. These are, first, the univalve, or turbinated, consisting of one piece only; secondly, the bivalve, consisting of two pieces, united by a hinge, like an oyster; and, thirdly, the multivalve, composed of more than two pieces, as the acorn Shell. All these are found in the sea at different depths; and are valuable in proportion to their scarcity and beauty.

From the variety of the colours and figures of Shells, we pass on to that of their places or situations. Some are found in the sea; others in fresh-water rivers; some alive on land; and a still greater quantity dead in the bowels of the earth. But wherever Shells are found, they are universally known to be composed of one and the same substance: they are formed of an animal or calcarious earth, that ferments with vinegar and other acids, burns into lime, and will not easily melt into glass.

Sea-Shells are either found in the depths of the ocean, or, being forsaken of their inhabitants, are by the tide cast on the shores. Those which are fished up from the deep are commonly denominated pelagii; and such as are cast on the shores are termed littorales. Many of the pelagii are never seen on shore; but they remain in the depths where they were first produced, and their capture is altogether fortuitous: these, therefore, are the scarcest, and consequently the most valuable Shells. The littorales are more common; and such as are of the same genus with the pelagii are less beautiful. As they are often found evacuated, they frequently lose the whiteness and brilliancy of their colouring. They are also often perforated, either by worms, or by each other; and are thus rendered less valuable: but their estimation is farther decreased, when they are scaled, either by lying too long empty at the bottom of the sea, or exposed on the shore. However, sea Shells exceed either land or fossile Shells in beauty; as they receive the highest polish, and exhibit the most brilliant and variegated tints.

Fresh-water Shells are neither so numerous, so various, or so beautiful, as those which belong to the ocean: they are destitute of that solidity which

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the latter possess: their clavicles are neither so prominent nor so strong; and being deprived of a saline impregnation to tinge their surfaces, their colours are very obscure. There are only two kinds found in fresh-water, the bivalved and the turbinated.

Living land Shells are more beautiful, though less various, than those which inhabit fresh waters; and some are not inferior in elegance to sea Shells. However, they are but of one kind, viz. the turbinated; and of that only four or five varieties are celebrated for their beauty.

Though fossile Shells do not properly fall within the limits of this work, a short account of them, as being connected with recent ones, may nevertheless be extremely apposite. This class contains as many genera as the sea itself; the univalve, the bivalve, and the multivalve kinds; and of each of these, many varieties not to be found in a recent state. Indeed, the number is so great, and the varieties are so many, that naturalists long entertained an opinion that they were the capricious productions of nature, and had never been the retreats of animals whose habitations they resembled. They were found not only of various kinds, but in different states of preservation: some had the Shell entire, composed, as in it's primitive state, of a white calcarious earth, and filled with earth, or even empty; others were discovered with the Shell entire, but replete with a substance which was petrified by time; some, and these in great numbers, were found with the Shell entirely mouldered away, but the petrified substance that filled it still exhibiting the figure and impression of the Shell; others, which had been lodged near earth or stone, impressed their print on these substances, and left the mark, though they themselves were decayed; and, lastly, some Shells were found half mouldered away, their parts scaling off from each other in the same manner they were originally formed. However, these different stages of the Shell, and even their fermenting with acids, were at first insufficient to convince those who had assigned them to a different origin: they were still considered as accidental and sportive formations; deposited in the various situations where they were discovered, but unconnected with any part of animated nature. Succeeding enquirers, more accurate in their researches, on digging up petrified Shells or teeth, soon found that they could discover the petrified remains of some other durable parts of the body. They perceived that the Shells taken from the earth exhibited the usual defects and disasters which the same kinds are known to receive at sea: they were not only tinged with a salt-water crust, but pierced in a peculiar manner by the sea-worms, which eagerly devour the Shells of fishes. These proofs at last prevailed over the erroneous opinions of former ages; and the false hypotheses which had been systematized, speedily died away.

Wherever Shells are found, they are now considered as the spoils of some animals that once found shelter in them. By what means they have wandered from the sea, is not necessary to be explained; they all exhibit unquestionable marks of their origin. From their number and situation, however, we are led to conjecture that the sea once reached those spots where they are found; from their varieties, we learn how little we know of all the sea at present contains; and it is most probable that thousands of different shapes, entirely unknown, still remain at the bottom.

A variety



A variety of authors have made the history of Shells their study; and, with indefatigable pains, they have systematized them into different classes, families, genera, and species. Different distinctions have been adopted by different conchologists; but the general divisions of Aristotle have always been retained by the judicious, whatever alterations they have chose to make in the subordinate parts. It is impossible to specify all the systems of ingenious men; but that of Da Costa being at once one of the most recent and most satisfactory, we shall subjoin a general view of his method, and leave the curious in Shells to perfect their knowledge by consulting the original.

This accurate conchologist begins with ascertaining some essential characters by which Shells may be divided into families or classes, genera and species. These characters must be formed from the principal parts of the Shell, the variations of which in size, shape, or situation, will enable us to establish the several subdivisions. Thus, univalves have the five subsequent essential characters for the classes or families; simple, or not turbinated, with a single continued cavity, turbinated and chambered, or with many cavities, the total shape, and the aperture or mouth of the Shell. The subordinate characters for the genera and species of univalves are also five; the number of spires or wreaths, operculated or not operculated, the nature of the shelly substance, whether opaque, corneous, or pearly, the epidermis and the head, and extremity or tip.

Da Costa adheres to the Aristotelian distribution; and all those bodies which coincide in one essential character, he refers to the same class; whilst the affinities or differences of these bodies to each other, in such parts as are not deemed principal, constitute the subordinate genera and species. Accordingly, he fixes on the aperture or mouth of the Shell as the distinguishing characteristic of the turbinated univalve; on the hinges for the bivalves; and the number of valves for the multivalves. The simple figure, the chambered structure, or the latent convolutions of the revolved Shells, which are those univalves uncharacterized by the mouth, as the limpets, ammonias, and cowries, are made the distinguishing characters of these families. The figure or shape, the turban or clavicle, the colour, consistence, and streaks on the Shell, are considered as the secondary characters of genera or species.

Univalves of the first class comprehend four general subdivisions or orders. The simple univalves, or those which are not turbinated, and very slightly spiral. This part contains four families; the limpets or patellæ; the aures marinæ, which are slightly spiral; the vermiculi, or worm Shells; and the dentalia.

The first family of the limpets is again subdivided into three genera; the whole or entire, without a perforation at the top; the chambered; and the pierced, or perforated, with a hole in the top quite through the Shell. The first genus is very numerous; the second has also many species; but the third has few. Europe affords but a small number of species; the finest and largest are natives of the East Indies; America has many of the chambered and smaller kinds; and some large and beautiful limpets have recently been imported from the Straits of Magellan and the South Seas. Limpets in a fossil state are by no means common.

The second family is the haliotæ, aures marinæ, or sea-ears, called also ear shells. There are very few species of this family; and of those which have been proposed as distinct species by several conchologists, some are certainly no more than varieties. Da Costa says he never knew one instance of an haliotis being found fossil.

The third family is the vermiculi, or worm Shells. These are subdivided into vermiculi, or tubular worm Shells, which have no fixed or determinate form; and penicilli, or those worm Shells which in the whole, or any especial or particular part, have a determinate regular shape or structure. There are but few species of either kind.

The fourth family is the dentalia. These are simple tubular Shells, of a regular, determinate, curved, conical shape, open at both extremities. This family contains very few species; nor are there many fossil ones discovered recent.

The second subdivision of univalves consists of such as are concamerated or chambered, having many regular and nearly equidistant cells or chambers; and a pipe, or siphunculus, which opens into and communicates from chamber to chamber. This second part, which constitutes the fifth family, contains six genera; one genus of which, the orthoceratites, is of a simple figure: four genera, as the lituitæ, or crozier, turbines polythalamia, ammonias, and ammonoidæ, are all turbinated; and the other genus, or nautilus, is revolved. There are only two of these six genera that are known recent, the lituitæ and nautilus; and therefore the others belong to the fossil kingdom. The lituitæ exactly resemble a bishop's crozier in shape, having a long cylindric stem, one end of which turns in a spiral manner; but the spires are few, separated, and receding from each other. This genus was first discovered by Breynius, and is seldom found in a fossil state.

The other recent genus, or nautili, are revolved Shells, or those whose spires never appear externally, but are very latent within the fabric of the Shell. They are of a chambered structure, the partitions of the cells or chambers being concavo convex roundish plates. The paper nautilus, says Da Costa, though classed by most authors as a nautilus, is a distinct genus from this, being devoid of a chambered structure, which is the essential character. The species of nautili are few. Conchologists make two species of the Indian or pearly kind; the umbilicated and non-umbilicated. The inclosed animal is said to inhabit only the uppermost or open chamber, which is much larger than the others: the rest remain empty, except that the pipe or siphunculus, which communicates from chamber to chamber, is filled with an appendage or tail of the animal, resembling a gut or string. This siphunculus is a dilatable tube, under the direction of the animal: when depressed, like the swimming bladder of a fish, it renders the nautilus buoyant; when it is contracted, the fish and Shell sink, and to such a depth as the present occasions of the creature require.

The third subdivision or order of univalves comprehends revolved Shells, or those whose spires are latent within the body; and are never externally visible, being entirely destitute of a clavicle or turban. This third part, which is the sixth family, contains three genera; the nuceæ, or bullæ; the semi-porcellanæ; and cypreæ, or porcellanæ.



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The *nucæ* or *bullæ*, commonly called the *pewee's eggs*, or *dipping-snails*, the *dippers* and *sea-nuts*, are generally of an oval shape, and umbilicated at the bottom; the mouth is very wide, especially at the top, and narrowing to a great degree downwards; the lip is thin, sharp, and naked, or without any border, and with a small facing or lip on the upper part of the mouth.

The *semi-porcellanæ*, or second genus, are Shells resembling the *cypreæ*, or *cowries*, in their appearance; but their aperture is more open; neither are the lips dentated. Linnæus makes a genus of these, which he calls *bulla*, including under the same appellation the preceding genus of *nucæ*. Davila makes them a genus of *cowries*; and others rank them as *cowries*. The species of this genus are not very numerous; some of them, however, such as the *weaver's shuttle*, and the *poached egg*, are esteemed rare and valuable.

The third genus is the *cypreæ*, or *porcellana*, called also the *cowry*. Shells of this genus are generally semi-oval, with their mouths in the flat part. The spires of the *cowries* make their revolutions within the body of the Shell; their aperture is on the flat side, being a narrow opening of the Shell; the lips, which nearly approach each other, are broad, turning inwards, and toothed; the two ends or extremes on the upper part are prominent; at one extreme there is a wry gutter or opening; the other extreme has also a gutter, but it is straight or perpendicular; and on it's side, in some species, there is another protuberance, like a small rude clavicle or turban. The distinguishing characteristic of this genus is the deep indentions on the interior edges of the lips, which divides it from the *semi-porcellanæ*. Linnæus adheres to this essential character; but some other conchologists, not regarding it, have confounded them all together.

The *cowries* are extremely numerous; and, both in colour and polish, are beautiful beyond description: and, what renders them still more admirable, they bring this fine polish with them from the sea; so that, were they less numerous, they would perhaps be esteemed as valuable as the most curious volutes. They seem to be littoral Shells; and are found on the coasts of the *Molucca isles*, the *Maldives*, *Madagascar*, and the *West Indies*. This genus is rarely found fossil.

The fourth subdivision or order includes the *turbinated* or *spiral univalves*; which are Shells whose spires are external, shewing themselves on the exterior surface of the Shell, in that part called the *clavicle* or *turban*, which is either produced short or flat, according to the several genera or species.

The seventh family under this class is the *cymbum* or *paper nautilus*. The Shells of this family, in their external conformation, resemble a ship or boat, whose upper part or head is narrow, turns spirally, and is similar to the stern; the rest of it widens to the other end, is quite hollow, forms an horizontal aperture, and lies lower than the stern or spiral end. There are only three or four known species; and those are brownish or whitish, almost as thin as paper, and hence they have obtained the appellation of the *paper nautilus*. Linnæus forms a distinct genus of these, under the denomination of *argonauta*. This family is the real sailor; the *nautilus* and *pompilus* of the Greeks and Latins; to which our celebrated English poet refers—

'Learn of the little nautilus to sail:'

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for it never has been satisfactorily proved, that the other kind, or *pearly nautilus*, ever sails, or navigates his Shell.

These Shells are natives of many parts of the *Mediterranean*, and also of the *Oriental coasts*. The inclosed animal is of the *polypus* kind; and, according to *Argenville*, the head is of a moderate size, with two large eyes. It has eight arms or legs, of a soft fleshy substance, thickest towards the body, connected by a slight membrane; and these are of a silvery colour, set with suckers or knobs on the sides, flattened like oars, and adapted for swimming. They supply the place of oars when the animal is desirous of rowing his vessel. The six foremost are short; and he balances himself, and extends them as he swims: the two hinder ones are longer than the others; and these he plunges in the sea by way of rudder; at the same time that they support the skin or membrane, which he uses as a sail to ply the wind. Thus equipped, he navigates in calm and serene weather; but, when apprehensive of danger, he retires within the Shell, which by that means admits the water, and sinks to the bottom. He frequently, however, pumps out the water; and often quits the Shell, which floating about in a state of inanity, is by the waves generally dashed to pieces against the rocks.

The *ear-snails*, or *auris-cochlea*, called also the *Venus-ear*, constitutes the eighth family. These Shells so much resemble the *sea-ears* in shape, that most authors have ranked them in that family, and called them *non-perforated sea-ears*. Lister and Gualtieri rank them as *cochleæ*; and Linnæus assigns them to a genus which he calls *helix*. Da Costa defines them to be Shells so open as to resemble *sea-ears*, but not perforated with a row of holes. They have a broad ledge along one side, projecting over the cavity, and turbinating into one single flat spire, quite level with the bottom of the Shell: this spire is also pretty wide, and extends to near the middle of the bottom or under part. There are but few Shells of this family.

The ninth family is the *cylindri*, cylinders, or *olives*. These Shells are ranked by Linnæus, in his genus of *voluta*, under the appellation of *cylindroidæ*. Da Costa separates the family into two genera; the *cylindri emarginati*, or such whose edge is quite even and sharp; and the *cylindri marginati*, or such whose edge has a very thick border, which turns over into a very prominent ledge on the back, like to the helmets. The species of Shells belonging to this family are very numerous and beautiful.

The *voluta*, or *volutes*, constitute the tenth family of the *univalves*. Linnæus transposes the name of *voluta* to the *mitres*, *Persian crowns*, *cylinders*, and other *univalves*, with the pillar platted or wreathed. The *volutes* are beautiful Shells.

The eleventh family is called *globosæ*, or *tuns*; and the Shells of this family are defined to be generally of a *globose* shape, the body being much swelled or rounded, whence they derive their name: they have short turbans; the mouth is extremely wide, and very large; and the upper part of it terminates in a wry channel, which is very short, and turns backward. None have a pillar or *columella* lip; though in some, as the *Persian crowns* and *melons*, the *columella* or pillar itself is wrinkled or platted. The Shells comprehended under this family are the *tuns*, *partridges*, *figs*, *harps*, *Persian crowns*, and *melons*. Though not



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very numerous, this family contains some very beautiful and curious Shells.

The cassides or helmets, constitute the twelfth family. These are defined to be semi-globose Shells, with the back very convex and round, and the under or mouth part flat. They have also flat, or at least very short clavicles or turbans; the mouth is long, narrowish, and terminates at the top in a gutter, which turns very large, strong, and wry on the back. The lip is always strongly and thickly toothed, and rises into a high thick border or ledge on the upper part or back; and the pillar is generally strongly toothed and ridged, or set with small asperities. Lister and Linnæus rank these Shells among the buccina. They are not very numerous; but some of them are extremely large and weighty.

The thirteenth family is the trôchi, or tops, which are Shells of a conic or pyramidal shape, the top being broad and flattish, and gradually tapering thence to a very sharp point. The aperture or mouth is generally angular, low, and narrow. It is a very numerous family, and abounds in curious and elegant Shells.

The fourteenth family is the cochleæ, or snails; the character of which is, a round, or nearly round mouth, perfectly bordered, and circumscribed. Da Costa divides this family into five genera; the nerites, or snails, with semicircular mouths; helices, or round-mouthed snails, whose spires lie horizontally, or between two levels, of which genus there are many curious species; snails with a short or flat turban, to which belong the common land-snails, and many others; snails with a lengthened clavicle or turban, which may be denominated turbo; and the cochleæ strombiformes, or snails whose turbans are extremely long and slender, of which genus the species are few.

The buccina, or whelks, constitute the fifteenth family. These are Shells whose mouth is an oblong and very lengthened oval, the upper part whereof is produced into a gutter or slight beak. Accordingly Da Costa divides this family into six genera. The buccina canaliculata, or guttered whelks, the upper part of whose mouth ends in an almost straight and somewhat prolonged gutter; and the inner, or columella lip, is always extremely smooth. The species of this genus are very numerous. The buccina recurvirostra, or wry-mouthed whelks, whose mouth appears as if cut short at the top; for the gutter or beak does not extend straight forward from the upper part of the mouth, but bends or falls on the back in a wry manner, exactly like the mouth of a flat fish. There are many species belonging to this genus. The buccina rostrata, or longirostra, or beaked whelks: these have a very lengthened beak, such as the purpuræ, tower of Babel, crane, and many other rare and curious species. The buccina umbilicata, or umbilicated whelks, which have a perpendicular hollow or navel by the side of the columella or pillar lip, on the first or body whirl. There are but few species of this genus. The buccina columella dentata, or plicata, or whelks with a wrinkled or plaited pillar. And, lastly, the strombi, or needles, which are Shells with a very long and taper clavicle or turban, and a wry mouth turning on the back, in some species of such a length that it resembles a spur. The genus of strombi is pretty numerous.

The sixteenth family is the murices, whose distinguishing characteristic is an oblong and equally

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narrow mouth longitudinally, which runs into a short gutter or top; and they are always thorny, spiked, or rough, over the entire surface, like the spikes or asperities of rugged rocks, whence the Latin appellation murex, the English rocks, and the French rochers.

Da Costa divides this family into four genera. The murex, rocks, or those Shells that have a long and equally narrow mouth; and are generally very rugged, with a clavicle or turban usually short, and almost flat, and the pillar wrinkled or plaited; of which there are many species. The rhombi, or Shells whose subordinate character is, that they have always a rhombic shape or contour; of which the species are not very numerous, but some are large and heavy. The alatae, or winged Shells, whose lip is expanded outwards like a flap or wing; and which are ranked by Linnæus under the genus of strombus: of this genus there are many fine and beautiful species. And the aporhoidæ, or winged Shells, whose edges are beset with strong spikes or processes, like fingers, as the spiders, devil's claws, and others. The species are few; but the general beauty of them amply compensates for the numbers.

The second grand division or class of Shells comprehends the bivalves, or such Shells as are composed of two pieces or parts; which being connected by hinges, play on each other, so as to shut, open, and perform all the functions necessary to the œconomy of the inclosed animals.

Da Costa distributes bivalves, of which there are no land, and few fresh-water Shells, into three orders. The first includes those Shells that have unequal valves, and shut close; of which there are four families.

The first family is the pectens, or escallops; the essential character of which is a trigonal sinus, and an elastic cartilage for it's hinge in the centre of the top of the Shell: the subordinate distinctions are their being eared; and that the top runs into a perfectly straight line, gradually widening thence into a round bottom. Linnæus makes the pecten a genus of oysters. Gualtieri divides them into different genera, with equal and unequal valves; calling the former pecten, and the latter concha pectinata; and the escallops with unequal or single ears, he denominates pectunculi. The species are numerous; some of which are very beautiful and curious, as the ducal mantle, the compass or sole, the duck's foot or coral, and the escallop.

The spondyli constitute the second family. These Shells are generally eared with unequal valves, partaking of the ruggedness of the oyster, with somewhat of the escallop form, so as to seem a medium between the two families. However, the spondyles, like the escallops, have some species with equal valves, and without ears. The chief character is the hinge, which in the upper Shell consists of a triangular hollow and cartilage, like the escallop, in the very centre; on each side of which there is a large thick and prominent tooth or joint lying on each side of the cavity. This family is not very numerous in it's species.

The third family is the ostreum or oyster; the hinge of which is destitute of teeth; but there are processes of a large inarticulate gutter running along the length of the top of the Shell, in both valves alike, covered and filled with a strong cartilage.

The species of this family are very numerous:  
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some very curious and beautiful, which bear a large price; as the hammer oyster and the cockscombs. Linnæus ranks the escallops with the oyster; Argenville and others reduce the spondyles to this family; while Lister ranks the hammer oyster and some others as escallops.

The fourth family is the anomizæ, consisting of several fossile species, but not more than three or four recent ones. Columna denominates them *conchæ rarioræ anomizæ*. Woodward first arranged the anomizæ from the fossile Shells; Gualtieri makes a particular genus of them, under the appellation of *terebratula*; and Linnæus considers them as a distinct genus, under the name of *anomizæ*, mixing the recent with the fossile kinds, and defining them to be Shells with unequal valves, one valve being flattish, the other convex, the beak perforated, and the hinge inarticulate or toothless. Davila considers them as a genus of oysters; and defines them as Shells whose beak or top of the under valve is perforated, and rises curved on the upper valve. Da Costa describes the anomizæ as bivalves, with unequal valves, and never eared. The beak of the largest or inferior valve is greatly produced, and rises or moves over the beak of the smaller or upper valve, and is perforated like a tube. The valves in some species are connected by an inarticulate or toothless, and in others by a multarticulate, or many-toothed hinge, constituting two genera: the former are those in which the hinge of the under valve is a large sinus or cavity, the angles whereof form two prominences or joints; and the upper valve is indented into it by a corresponding prominence to its cavity, and by two small hollows, coinciding with the two joints: the latter are those whose hinge lies on a long straight line, and is full of teeth, exactly like the Noah's ark Shells. This gentleman is of opinion that the animals inhabiting these Shells seldom open them, as most others do, to admit their food; but receive their nourishment through the tube or perforated beak only.

The second order of bivalves comprehends those Shells that have equal valves, and shut close; such as the cockles, tellens, and muscles. Da Costa distributes this order into three sections; the multarticulate, articulate, and inarticulate. The first section includes the *lepto-polyginglymi*, or multarticulate Shells, with a great number of teeth on the hinges, of which we meet with three families.

The *pectinoidæ*, or Shells with equal valves, form the fifth family of bivalves. These are generally flat; the hinge lies on a straight line like the escallop, but is set with several parallel and straight ridges or intermediate furrows; and the sides are dissimilar. There are but few species of this family.

The sixth family is the *pectunculi lepto-polyginglymi*, or multarticulate cockles. The Shells of this family resemble the cockle in every respect, except the hinge, which in these is furnished with a great number of teeth; and in those with few, Linnæus places them in his genus of *arca*. The species are not very numerous.

The seventh family is composed of the *arcæ*, arks, or boats, which have their hinges on a straight line, and are of a somewhat quadrangular or oblong figure, as the Noah's arks and square cockles. Argenville places them in his fourth family of heart-cockles; Davila makes them a

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distinct genus of his fourth family, and calls them arks; Gualtieri forms them into a genus under the appellation of *concha rhomboidalis*; and Linnæus ranks them as a distinct genus, which he denominates *arca*. This family does not consist of many species.

The second section comprehends all bivalves with equal valves, which are not eared, and have few teeth on their hinge. Of this division there are three families.

The eighth family of *pectunculi* or cockles is characterised by a curved or semilunar hinge, set with several strong teeth, from two to four in number; and may be divided into three genera.

The *pectunculi* or cockles; the *chamæ* of some modern authors; which are convex or flattish Shells of a circular shape, and with similar or dissimilar sides, whose beaks are not very prominent, and run much upwards towards the hinge. Argenville, Davila, and some other conchologists, call them *comes*; Gualtieri denominates them *chamæ*; and Linnæus disperses them into several of his genera. The genus is very numerous.

The second genus is the *cordiformes*, or heart-cockles; whose beaks are very prominent, and revert considerably towards the hinge, by which means they represent a heart. Gualtieri places them among his *conchæ cordiformes*; and Linnæus ranks them in his *cardium* genus. This genus is pretty numerous.

The third genus is composed of the *truncati*, or flat-sided cockles, which is by no means numerous.

The ninth family is the *tellinæ*. These Shells are considerably broader than they are long; somewhat depressed; and the hinge has two teeth set close together. The species are but few.

The *placentæ* compose the tenth family. These are Shells with equal valves, whose hinge lies entirely within the Shell; and one valve consists of two straight linear ridges, pretty prominent, and raised obliquely to each other, so as to meet at one end in a very acute angle; and the other valve has two correspondent furrows. Da Costa forms two species of this family; the Chinese glass, or pellucid oyster; and the Polish saddle.

The third section includes the inarticulate bivalves, or those which are destitute of teeth on their hinge; of which there are two families.

The *margaritiferæ*, or pearl oysters, compose the eleventh family. These are eared Shells with equal valves, whose hinge is merely a gutter or slight furrow, without a single tooth. The species are few; but among them are the pearl oyster, or mother-of-pearl; and the swallow. Rumphius, Davila, and some other conchologists, rank these as oysters; Woodward forms them into a genus which he calls *margaritiferæ*; and Gualtieri places the pearl Shells in one genus, under the appellation of *inæquilateræ*; and the swallow in another, called *conchæ aliformes*.

The twelfth family is the muscles; which are generally very convex; of a long and narrow shape; and the hinge is a mere slight furrow without any tooth; and situated, not at the top of the Shell, but a short way down one of the sides. The species are not very numerous.

The third order of bivalves comprehends the *conchæ hiantes*; whose Shells never shut close, but are always open or gaping in some part. This division constitutes the thirteenth family, and consists of four genera, as follow.

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The *bridanæ*, or *bason conchs*, which are Shells of equal valves and dissimilar sides, resembling the heart cockles in hinge and appearance; but on the longest side, from the back to nearly the extreme margin, the two Shells do not close, but have a large heart-like opening, the lips whereof are broad, and turn up on the edges. The species of this genus are but few; nevertheless, they make up in weight what they want in number, being the largest and heaviest of all bivalves, some weighing from three hundred and a half to six or seven hundred weight.

The *chamæ*, or *gapers*, which have a broad, thick, and large tooth for their hinge; and are, as it were, abruptly cut off on one side; which side is always open or gaping, as the valves cannot shut close at that part. There are few species of this genus.

The *solenes*, *sheaths*, or *razor Shells*, which are very broad, but extremely short, open at both ends; and the hinge is furnished with teeth placed quite at one extremity.

The *pinnæ*, *sea-wings*, or *hams*; Shells of a somewhat triangular shape, widening from a pointed or narrow top to a very broad end, which is always open: the hinge is inarticulate, and placed on one side. The species are but few.

The third general division, or class of Shells, comprehends the multivalves, or those composed of more than two valves or pieces.

In this division there are the three following families.

The first family of multivalves, and the fourteenth of Shells in general, is the *pholas*, or *pid-docks*; the Shells of which are trivalves, having two large valves, with a small valve placed between them near the hinge, which turns on the exterior part of the Shell; and under it, internally, there is a long curved tooth or spur. The species of this family are very few; nor are they at all remarkable for beauty.

The next, or fifteenth family, is the *anatiferae*, or *barnacles*, which are quinquevalve Shells, and made up of two large valves, with two small ones beneath them; and a long narrow spur-like valve, running longitudinally, which connects them. There are but few species of this family.

The third, or sixteenth family of Shells, is the *balani*, or *acorns*, which are composed of many valves lying parallel to each other, and in a perpendicular position, contrary to that of all other valves, which lie horizontally. The top is open; and the fish performs it's necessary functions by that aperture; for the valves never open or separate, being destitute of hinges.

The *balani* are always found fixed by their under part to Shells, stones, and other solid bodies. The species of this genus are few; nor are they beautiful. Indeed, if we except a few bivalves, we shall in vain look for elegance beyond the first class of Shells, the splendid univalves, which are not more distinguished by their superior beauty than for their numbers.

For a description of the particular genera, and the most curious species, see their respective names.

**SHELL, APPLE.** An English appellation for the *loxia*, or *cross-bill*; so called from it's dexterity in splitting an apple, and feeding on the kernels, leaving the Shell of the pulp untouched.

**SHELL-FISH.** These Shells are of various kinds; but they generally agree in the quality of

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being oviparous, very few instances having occurred of such as are viviparous. Among the oviparous kinds, anatomists have discovered, that some species are of different sexes, in the different individuals of the same species; but others are hermaphrodites, each being in itself both male and female: in both cases, their increase is numerous, and scarcely inferior to that of plants, or of the most prolific of the insect class.

Their eggs are very small, and strung together in a sort of clusters by means of a glutinous humour which always surrounds them, of the nature of frog's spawn jelly. This fluid not only serves to confine them together, but also to unite them to the rocks, shells, or other solid substances; by which means they are preserved from being driven on shore by the waves, and left where they cannot arrive at perfection.

**SHELL-GALL-INSECT.** An insect of the gall-insect class, so called from the resemblance it bears to a muscle-shell. It is very small, and may easily be mistaken for the minute case which some small insect has deserted; or, in another state, for the nest in which some small insect had deposited it's eggs: but, by the assistance of a microscope, it's true nature will immediately be discovered. Without this help it is not easily seen, even at it's full growth; being very minute, and generally of the same colour with the bark of the tree on which it resides. Reaumur first discovered and described this minute insect.

**SHIRLEY**; the *Tanagra Militaris* of Linnaeus. A bird first figured and described by Edwards. The bill is blackish; the head, the upper side of the neck, the back, the rump, the upper side of the wings, and the tail, are of a dark or dusky brown hue; and all the wing-feathers, except the greater quills, are transversely marked with dusky lines. The tail is composed of twelve feathers, barred across with dusky; the under-side of the tail, the lower belly, the thighs, and the coverts, are dusky; and the throat and breast, to the middle of the belly, as well as the ridge round the upper part of the wing, are of a fine full red or scarlet colour. The legs, feet, and claws, are dusky; and the outer and middle toes are connected by a membrane. Edwards has given this bird the appellation likewise of the greater bullfinch.

**SHOVELER**; the *Anas Clypeata* of Linnaeus. A species of duck, somewhat resembling the common wild duck. See DUCK, BROAD-BEAKED.

**SHOVELER** is also an appellation by which some authors express the spoon-bill. See SPOON-BILL.

**SHREW**, or **SHREW-MOUSE**; the *Sorex Araneus* of Linnaeus, and the *Mus Araneus* of other naturalists. An animal of a mixed brown and reddish tawny colour, with a white belly, and a short tail. The body is about two inches and a half long; the eyes are very small and black; the nose is long and slender; the ears are short and rounded; and the teeth, which are very small, and differ in their shape and situation from those of every other creature in the world, appear as if nature had intended that in this respect the creature should partake both of the mouse and snake kind.

This animal is very common in many parts of the world; and particularly in this country, where it frequents dry grounds, old walls, and holes in the earth. It subsists on corn, insects, and any sort of



of filth; and produces four or five young at a time. Cats frequently kill it; but they carefully abstain from eating it's flesh. Indeed, it's whole body emits a foetid and offensive smell; and, from it's natural disagreeableness and deformity, several injurious qualities have been ascribed to it which it does not really seem to possess.

The most cursory observer may easily distinguish it from the common mouse: it is smaller in size; it's nose is much longer; it has five toes on the hinder as well as on the fore-feet; it's eyes are extremely small; it's claws are long and whitish; and it's feet are short.

**SHREW-MOUSE, WATER;** the *Sorex Fodiens* of Pallas. This animal is much larger than the common Shrew. The upper part of the body and the head are black; the throat, breast, and belly, are of a light ash-colour; and beneath the tail there is a triangular dusky spot.

This species inhabits Europe and Siberia; but was lost in England till 1768, when it was discovered in the Lincolnshire fens. It burrows in the banks near the water, and is said to swim under the liquid element. It chirrups like the grasshopper; and, on account of the smallness of it's eyes, has sometimes received the appellation of the blind mouse.

**SHRIKE.** An English appellation for the *Lanius Excubitor* of Linnæus. See **BUTCHER-BIRD**.

**SHRIKE, RED-BACKED;** the *Lanius Collurio* of Linnæus. See **FLUSHER**.

**SHRIMP;** the *Cancer Grangon* of Linnæus. An animal of the genus of cancer, though sometimes classed under that of *squilla*. It has long slender feelers, and between them two projecting laminae; the claws have a single hooked moveable fang; it has three pair of legs; and seven joints in the tail. The middle caudal fin is subulated; and the four others are rounded and fringed, with a spine on the exterior side of each of the extremes.

This shell-fish inhabits the sandy shores of Britain in vast abundance; and is reckoned the most delicious of all the genus.

**SHRIMP, WHITE;** the *Cancer Squilla* of Linnæus. This species has a snout like the prawn, but deeper and thinner; it's feelers are longer in proportion to it's bulk; and the sub-caudal under-fins are somewhat larger. It inhabits the Kentish coasts.

By act of parliament, Shrimps are only to be caught in the Medway and Thames from Bartholomew-day to Good Friday; and red Shrimps in the river Medway only from the 25th of April to the 1st of July.

**SHRIMP, FRESH-WATER.** See **SQUILLA**.

**SHRITE.** An appellation by which some authors express the missel-bird.

**SICUB, OR SICAB.** A name by which the inhabitants of the Philippine islands express a species of hawk, about the size of the common hawk. This bird is beautifully variegated with yellow, white, and black feathers.

**SICUS.** An appellation by which some ichthyologists express that species of the coregonus more generally denominated the *albula nobilis*. In the Linnæan system, it is a species of *salmo*.

**SICYANA.** See **GOULD-WORM**.

**SILK-WORM.** A species of the *phalæna* genus, consisting of eleven rings, and each of these of a great number of smaller ones united together;

and the head, which terminates these rings, is furnished with two jaws, which work and cut the food, not by a perpendicular but lateral motion.

Though silk was anciently imported into Rome in small quantities, yet it was so very scarce as to be sold for it's weight in gold; and was considered as such a luxurious refinement in dress, that it was deemed infamous for a man to appear in apparel of which silk constituted but half the composition. It was most probably introduced at this period from the remotest parts of the East, since it was then scarcely known even in Persia.

Nothing can be more distant from truth than the manner in which ancient historians describe the animal from which silk is produced. Pausanias informs us, that silk came from the country of the Seres, a people of Asiatic Scythia; in which region an insect as large as the beetle, but in every other respect resembling a spider, was bred up for that purpose. 'They take great care,' says he, 'to feed it, and to defend it from the weather, as well during the summer's heat as the winter's rigour. This insect,' continues he 'makes it's web with it's feet, of which it has eight. It is fed for the space of four years on a kind of paste prepared for it. At the beginning of the fifth, it is supplied with the leaves of the green willow, for which it shews a particular predilection: it then feeds till it bursts with fat; after which they take out it's bowels, which are spun into the beautiful manufacture so very scarce and costly.'

Such are the dreams of remote antiquity. Indeed, it appears that this animal was unknown among the Romans till the time of Justinian: and it is supposed that Silk-Worms were not imported into Europe till the beginning of the twelfth century; when Roger of Sicily brought workmen in this manufacture from Asia Minor, after his return from his expedition to the Holy Land, and settled them in Sicily and Calabria. From these the other European nations learned this manufacture; and it is now become one of the most lucrative carried on in the southern provinces of Europe.

The Silk-Worm is now well known to be a large caterpillar of a whitish colour, with twelve feet; and to produce a butterfly of the moth kind. The cone on which it spins is adapted for covering it while in the aurelia state; and several of these, properly wound off, and united together, form those strong and beautiful threads which are woven into silk. The feeding of the Worms, the gathering, the winding, the twisting, and the weaving of their silk, is one of the principal manufactures of Europe; and as luxury seems daily to increase, it's consumption is become amazingly great.

Two methods have been adopted for breeding Silk-Worms: for they may be left to grow, and remain at liberty on the trees where they are hatched; or they may be kept in a place built for that purpose, and fed every day with fresh leaves. The former mode is used in China, Tonquin, and other hot climates; the latter in those places where the animal has been artificially propagated, and still continues exotic. In the warm regions, the Silk-Worm proceeds from an egg, which has been glewed by the parent moth on a proper part of the mulberry-tree, and which remains in that situation during winter. The manner in which these eggs are situated and fixed to the tree, keeps them uninjured by the severity of



the season; so that those frosts whose influence is strong enough to kill the tree, can seldom hurt the Silk-Worm.

These insects never proceed from the eggs till nature has provided them a proper supply; and till the budding leaves are furnished in ample abundance for their support. When the leaves are expanded, the Worms seem to feel the general invitation; and bursting from their little eggs, crawl on the leaves, where they feed with a most voracious appetite. Thus they become larger by degrees; and, after some months feeding, they deposit, on every leaf, small bundles or cones of silk, which appear like so many golden apples painted on a fine green ground.

Such is the method of breeding them in the East; and it is unquestionably most agreeable to the nature of the Worms, as well as least troublesome to their proprietors. But it is far otherwise in our colder European climates: the frequent changes of the weather, the heavy dews of our evenings, and a variety of other consequences resulting from situation, render the keeping them all night exposed, subject to so many inconveniences, as to admit of no remedy. It is true that, by the assistance of nets, they may be preserved from the depredations of birds; but the severe cold weather which frequently succeeds the first heats of summer, as well as the rain and high winds, would utterly extirpate them: and therefore, to breed them in Europe, they must be carefully sheltered and protected from external injury. In order to effect this, a room should be selected with a south aspect; and the windows glazed with the utmost exactness, that every breath of air may be kept out: the walls also should be well built; and the planks of the floor laid so extremely close, that not an insect can make it's way into the place destined for the reception of the Silk-Worms. In the middle of the room four posts should be erected, so arranged as to form a square of pretty considerable extent: between these different stories should be made with osier hurdles; and under each hurdle a floor, with an upright border round; and these hurdles and floors should hang on pulleys, so as to be placed or taken down at pleasure.

When the Worms are hatched, some tender mulberry-leaves should be laid in the cloth or paper box wherein the eggs are deposited, and which are sufficiently capacious to contain a considerable number. When they have acquired some strength, they must be distributed on beds of mulberry-leaves, in the different stories of the square in the centre of the room, round which there should be sufficient space for a person to pass with freedom: on these leaves they will fix themselves; and afterwards on the sticks of the hurdles, when the leaves are devoured. They have then a thread, by which they can occasionally suspend themselves, to prevent any shock by a fall: this, however, is by no means to be considered as any portion of the silk which they afterwards spin in such abundance. Care must be taken to supply them with fresh leaves every morning, which must be strewed very gently and equally over them; when the Silk-Worms will forsake the fragments of the old leaves, which must be carefully removed, and the whole kept in a state of the most perfect neatness, nothing being more injurious to these insects than moisture and nastiness. For this reason, their leaves must be collected during

dry weather, and kept in a like situation, should it be necessary to lay in a store.

As these animals enjoy but a very limited existence, they husband every moment; and are almost continually engaged in spinning, except at those intervals when they change their skins. Should there be any difficulty in obtaining mulberry-leaves, they may be fed with those of lettuce or holy-oak: but they do not thrive so well on this strange diet; neither will their silk be so copious or so beautiful.

A judicious choice and attentive management of their diet is absolutely necessary. But this is not all: there is another precaution of equal importance, which is to give them air, by opening the windows of their apartment at such seasons as the rays of the sun are most powerful. These matters carefully observed, together with a due attention to cleanliness, will wonderfully contribute to their health and increase.

At the time the Worm bursts it's shell, it is extremely small, and of a black colour; but the head is of a more shining black than the rest of the body. Some days after, it begins to turn whitish, or of an ash-coloured grey; and the skin beginning to grow too rigid, or the animal being stunted in it, throws it off, and appears clothed anew. It then becomes larger, and much whiter, though it still has a greenish cast; and, after some days, which are determined by the heat of the climate or the quantity and quality of it's food, it leaves off eating, and seems to enjoy a state of perfect repose for two days together. After this it begins to stir, and put itself into violent motions, till the skin falls off a second time, and is thrown aside by the animal's feet. All these transformations are undergone in the space of three weeks or a month; which being ended, the insect begins to feed once more in it's caterpillar state, but considerably different from what it was before it changed. In a few days time, it seems to sleep again; and, when it awakes, again changes it's covering, and continues feeding as before. When it has thus obtained a sufficiency of food, and it's parts are disposed for assuming the aurelia form, the animal, for the last time, forsakes all food and society, and provides a retreat, to protect itself from external injuries while apparently deprived of life and motion. This retreat is no other than it's cone or bag of silk, which nature has taught it to compose with surprising art; and within which it buries itself till it assumes it's winged form. This cone or ball is spun from two little longish kind of bags, lying above the intestines, and filled with a gummy fluid of a bright yellow colour: from this substance the threads are formed; and the little animal is furnished with a surprising apparatus for spinning it to the requisite degree of fineness which it's exigencies require. The instrument with which this operation is performed in some measure resembles a wire-drawer's machine, in which gold or silver threads are extended to any degree of minuteness; and through this the animal draws it's thread with great assiduity. As every thread proceeds from two gum bags, it is probable that each supplies it's own; which, however, are united as they proceed from the animal's body. If the thread be microscopically examined, it will be found flatted on one side, and grooved along it's length: from hence we may infer, that it is doubled immediately on leaving the body; and that the



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the two threads adhere to each other by that gummy quality of which they are possessed.

The Silk-Worm, previous to spinning its web, explores some convenient situation for erecting its cells without obstruction: and, when it has found a chink or leaf adapted to its purpose, begins to wreath its head in every direction; and fastens its thread on every side to the verges of its retreat. Though all its first essays seem abundantly confused, they are not altogether destitute of design: there appears, indeed, no order or contrivance in the disposal of its first threads; and they are by no means artificially arranged, but thrown out at random, to serve as an external shelter against rain; for nature having ordained the animal to work on trees in the open air, its habits remain, though it be sheltered in a warm apartment.

Malpighi pretends to have observed six different layers in a single cone of silk. But, what may easily be observed, is, that it is externally composed of a rough cotton-like substance, called floss: within, the thread is more distinct and even; and, next the body of the aurelia, the apartment seems to be lined with a substance of the hardness of paper, but of a much stronger consistence. It must not be supposed that the thread which constitutes the cone is rolled round, after the manner of what is called a bottom: on the contrary, it lies on it in a very irregular manner; and winds off, sometimes from one side, and sometimes from the other. The whole thread will measure about three hundred yards in length; and such is its fineness, that eight or ten of them are generally rolled into one by the manufacturers. The cone, when completed, resembles a pigeon's egg, more pointed at one end than the other: at the smaller end the head of the aurelia is generally found; and this is the place that the insect, when converted into a moth, is generally observed to perforate.

The aurelia is commonly a fortnight or three weeks in changing to a moth; but no sooner is the winged insect completely formed, than having divested itself of its aurelia skin, it prepares to burst through its cone or external prison: for this purpose it extends its head towards the point of the cone; butts with its eyes, which are rough, against the lining of the cell; gradually wears it away; and at last pushes forward through a passage, small at first, but which enlarges as the animal perseveres in its efforts for emancipation; while the tattered remnants of its aurelia skin lie confusedly within the cone.

The animal, thus liberated from its double confinement, appears as if exhausted through fatigue; and seems to have undergone all this toil and labour solely for the purpose of transmitting a future brood. It neither receives food, nor makes use of its wings: the male only seeks the female, whose eggs he impregnates; and their union continues for four days without interruption. Immediately on the male being separated from his mate, he finishes his course; and the female survives him no longer than till she has laid her eggs, which lie dormant till the ensuing spring.

But though this be the natural progress of the Silk-Worm, few of these animals are suffered to arrive at a state of maturity; for, as their bursting through the cone destroys the silk, the manufacturers take care to kill the aurelia, by exposing it to the sun, before the moth comes to perfection.

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This done, they remove the floss, or external coat; and then throw the cones into warm water, stirring them about till the first thread presents a clue for winding all off. Eight of these silken threads are generally taken together, the cones being still kept under water till a proper quantity of the silk is wound off: however, some part is left at the bottom, on account of its inferiority in substance and colour. As to the paper-like substance which remains at last, some stain it with a variety of colours, to make artificial flowers; and others suffer it to lie in the water till the glutinous matter which cements it is entirely dissolved: it is then carded like wool, spun with a wheel, and converted to several useful and profitable purposes.

**SILK-SPIDER.** The quality of spinning silk was first discovered to be inherent in the Spider tribe by M. Bon, in 1710. This gentleman observes, that Spiders are distinguished, either with regard to their colours, as into black, brown, yellow, white; or with regard to the number and arrangement of their eyes; some having six, some eight, and some ten. But, with regard to Silk-Spiders, M. Bon reduces them all into two kinds; those with long legs, and those with short; which last furnish the finest raw silk.

The Silk-Spider spins from the anus, around which there are five papillæ or small nipples, and behind these two others; all musculous, and furnished with sphincters: these nipples serve to form and mould a viscous liquor, which, after being dried in the air, becomes silk. Each of these nipples, Reaumur observes, consists of a number of very minute ones; but the threads are too fine to be counted with exactitude, though the above-mentioned gentleman concludes that each larger nipple may send forth a great many.

The Spider-bags are of a grey colour when new, but turn blackish on being much exposed to the air: they are always lodged in some situation remote from wind and rain, such as hollow trees, the corners of windows, or under the eaves of houses. By collecting a quantity of these bags, (if we may credit Bon) a new silk is made, in no respect inferior to the common kind. It takes all dyes; and may be manufactured into all kinds of stuffs. That gentleman had stockings and gloves made of it, which he presented to the French Academy, as well as to the Royal Society of London.

Reaumur, however, whose judgment and penetration as a naturalist have seldom been exceeded, denies the practicability of collecting a sufficient number of these webs to answer any beneficial purposes; and maintains that the Spiders are too untractable to endure confinement; that they destroy each other; and that their silk is neither furnished in such quantities, nor of such a quality, as to render their breeding and preservation worth attention.

**SILPHA.** In the Linnæan distribution, a genus of the coleoptera order of insects: the distinguishing characters of which are; that the antennæ become thicker towards the extremity; the elytra are margined; the head is prominent; and the thorax is flattish and margined. Linnæus enumerates thirty-five species.

**SILVER FISH.** This Fish, which is caught near the Cape of Good Hope, is of the shape of a small carp, and not very different in taste. It is of a whitish colour; and adorned with silver shining stripes, running transversely from the back to the



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the sides, whence it appears as if covered with leaf-filyer.

**SILURUS.** In the Linnæan system, a genus of the order of abdominales. It's characters are; that the body is naked; that the mouth is furnished with several cirri, somewhat filiform; that the bronchial membrane consists of a number of rays, from four to fourteen; and that the first ray of the dorsal and pectoral fins is spinose, and dentated backwards. Linnæus enumerates twenty-one species.

However, the name Silurus is most commonly appropriated to a fish called in English the sheat-fish, which is caught in the Vistula, and other large rivers. It grows to an immense size, some having been taken upwards of sixteen feet in length, and one hundred pounds in weight. It resembles the eel in it's colour; but the belly is variegated with black, white, and dusky spots; the body is destitute of scales, and covered with a mucous substance; the head is flat, short, and broad; the aperture of the mouth is extremely large; the body, down to the anus, is thick and cylindric; but the bottom of the belly is flat, and from the anus to the tail it is broader and more flat. The eyes are large, and furnished with two antennæ; four beards depend from the lower jaw; the gills are four on a side; there is only one small dorsal fin; and the tail is even. It's flesh is held in the highest estimation.

Gesner mentions two species of this fish; one flattened towards the tail; the other of a mixed green and yellow colour, having two beards on the upper jaw, and three on the under.

The term Silurus, which is of Greek extraction, is derived from Sein, to Move or Shake; and Oura, a Tail; indicating the remarkable quality this fish possesses of almost continually moving it's tail in the water.

SILURUS is also applied by some ichthyologists to the sturgeon; called also the accipenser, but more generally sturio.

**SIMIA**; the Ape, or Monkey. In the Linnæan system, a distinct genus of animals belonging to the order of primates, and class of mammalia. The distinguishing characters are; that they have four cutting-teeth in each jaw, near each other; that the canine teeth are longer, single, and separate; and that the grinders are obtuse. Linnæus enumerates thirty-three species.

According to Pennant's distribution, this genus belongs to the section of anthropomorphous digitated quadrupeds; of which he gives the subsequent characters: they have four cutting and two canine teeth in each jaw; each of the feet is formed like hands, generally with flat nails; and, except in one instance, they are furnished with four fingers and a thumb; and there are eye-brows both above and below.

This race of animals, which is very numerous, is almost confined to the torrid zone: they fill the woods of Africa, from Senegal to the Cape of Good Hope, and from thence to Ethiopia; and a single species is found beyond that line, in the province of Barbary. They are natives of all parts of India and it's islands, Cochin China, China, and Japan; one kind is met with in Arabia; and they swarm in the forests of South America, from the Isthmus of Darien as far as Paraguay.

Ray first distributed animals of this genus into three classes; namely, the Simiæ, or apes, without

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tails; the papiones, or baboons, with short tails; and the cercopetheci, or monkeys, with long tails. Succeeding naturalists have in general adopted his distinctions, which seem founded in nature, and confirmed by experience. See APE, BABOON, and MONKEY.

**SIMIA MARINA.** An appellation used by Bellonius, and some other ichthyologists, to express the vulpes marina of authors in general; a kind of shark remarkable for it's long tail, from whence it has likewise received the name of the sea-fox.

**SIMON.** A name sometimes applied to the dolphin; by which when addressed, as some authors gravely tell us, it will readily answer.

**SIMUS.** An appellation by which some naturalists express the nassus, a fish common in the large rivers of Germany, somewhat resembling our chubb, and in other respects the common rudd.

**SIPTACE.** A beautiful bird described by the ancients; supposed by some to be synonymous with our gold-finch; while others, with a stronger shew of probability, imagine it to be the parrot.

**SIPUNCULUS.** A genus of the intestina class of worms in the Linnæan system. It's distinguishing characters are; that the body is round and elongated; that the mouth is attenuated and cylindric; and that the lateral aperture of the body is rugged. There are two species; one is found under stones in the European, and the other in the Indian Ocean.

**SIREN.** An appellation given by Artedi to a sea-monster frequently described by naturalists; but either not existing at all, or less resembling man than it has been defined.

Artedi supposes the Siren to constitute a peculiar genus of the plagiuri, or cetaceous fishes. His characters of it are these: it has no pinnated tail; the head, neck, and breast, down to the navel, represent those of the human species; and there are only two fins on the whole body, which are situated on the breast. See MERMAID.

**SIREN** is also a genus of the meantes, in the class of amphibia. The distinguishing characters are: the body is biped, naked, and furnished with a tail; and the feet are brachiated with claws.

This animal, which was discovered in Carolina by Dr. Garden, is found in swampy and muddy situations, by the sides of pools, under the trunks of old trees. Linnæus established a new order for this uncommon creature, called meantes, or gliders; the animals belonging to which are amphibious, breathing by means of gills and lungs, and furnished with arms and claws.

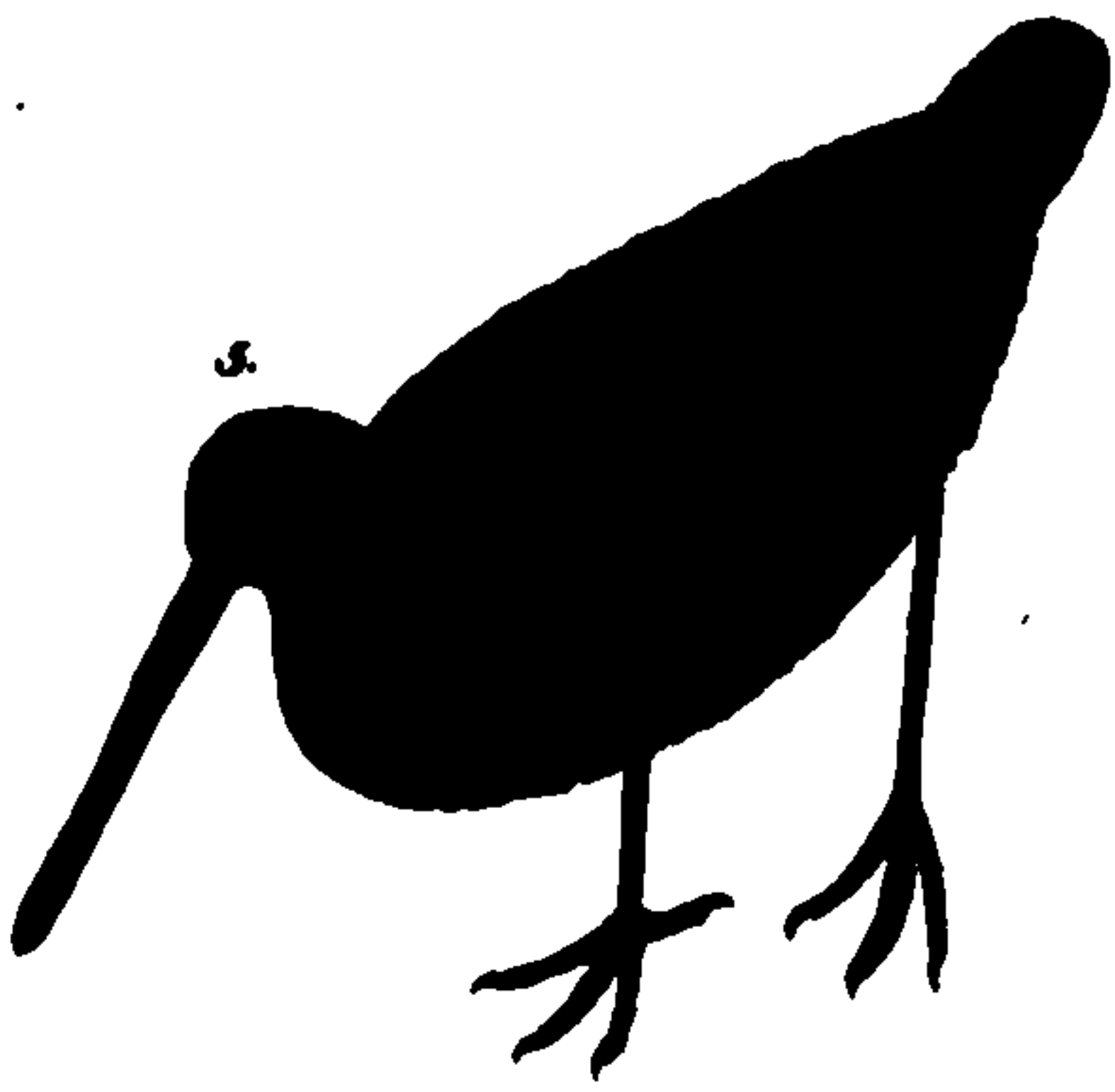
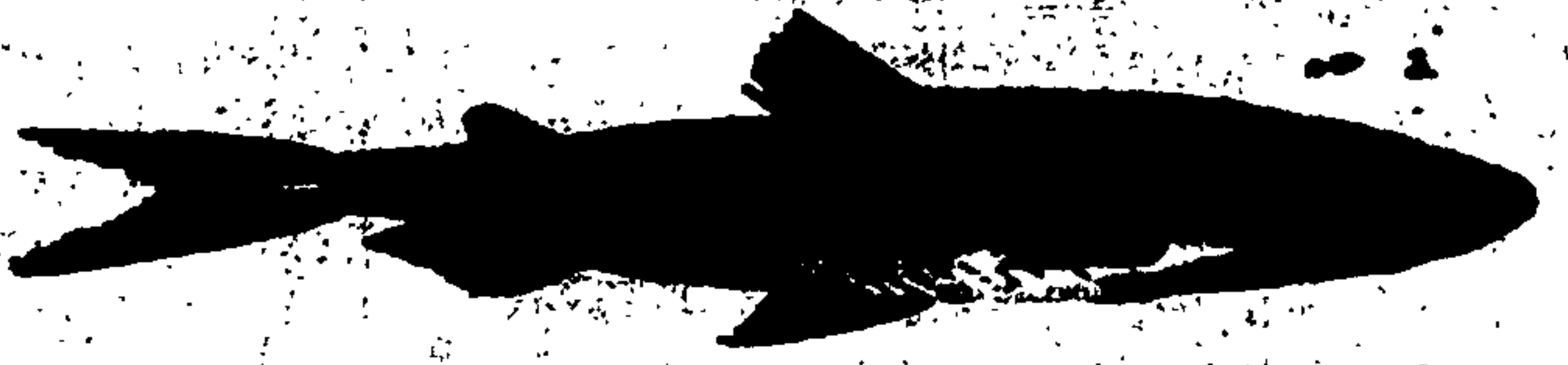
**SIREN** is likewise an appellation given by Mousset to a species of bee; of which he distinguishes two kinds, a larger and a smaller: these differ greatly from the common bee, in that they lead a solitary life, and never unite in swarms, build nests, or frame combs.

**SIREX.** A genus of the hymenoptera class of insects, in the Linnæan system. The characters are: the mouth has two strong jaws; it has two truncated palpi, or feelers; filiform antennæ; an exerted, stiff, serrated sting; a sessile, mucronated abdomen; and lanceolated wings. There are seven species.

**SISKIN.** A provincial appellation for the aberdavine. See ABERDAVINE.

**SITTA.** A distinct genus of birds of the order





1. SKATE 2. SLOTH. 3. SMELT. 4. RINGED SNAKE. 5. SNIFE  
6. SNOW BIRD.



der of *picæ*, in the Linnæan system. The characters of this genus are: the bill is subulated, tapering, straight, extended, and entire, with the upper mandible somewhat longer than the lower, and a compressed apex; the tongue is jagged; the nostrils are covered with feathers; and the feet are formed for walking, having three toes forward, and one backward.

Linnæus enumerates three species; of which the *picus cinerius*, or grey wood-pecker, or *Sitta Europea*, in English denominated the nut-hatch, is one. See NUT-HATCH.

One of the other two species is found in Canada; and the other in Jamaica.

**SIYAH GHUSH.** An animal of the feline kind, found in Persia, India, and Barbary. Buffon gives it the appellation of the Caracal; Pennant, of the Persian cat; and Charlton names it the Siyah Ghush, or black ear. It has a long face, and a small head; very long, slender, black ears; a white nose; and small eyes. The upper part of the body is of a pale reddish brown hue; the tail is somewhat darker; the belly and breast are whitish; the hind part of each limb is marked with black; and the tail is about half the length of the body.

This animal is frequently domesticated, and used in the chase of lesser quadrupeds; as also of the larger sort of birds, such as cranes, pelicans, and peacocks, which it surprises with vast address. Having seized its prey, it holds it with its teeth, lying for a short space entirely motionless. It is also said to attend the lion, and to feed on the remains of what prey is relinquished by that superior tyrant of the forest. When provoked, it is very fierce: and Dr. Charlton informs us, that he saw one attack a hound, which it killed and tore to pieces almost instantaneously, notwithstanding the dog made all the resistance in his power.

**SKATE;** the *Raia Batis* of Linnæus. Artedi distinguishes it by the appellation of the variegated ray-fish, having the middle of the back smooth, and only one row of spines in the tail.

The Skate, in proportion to its bulk, is the thinnest of any of the genus; as well as the largest, some weighing near two hundred pounds. The nose, though not long, is sharp-pointed; and above the eyes there is a set of short spines. The whole upper part is of a pale brown colour, in some species streaked with black; the lower part is white, marked with many small black spots; and the jaws are covered with small granulated, but sharp-pointed teeth. The tail is of a moderate length, with two fins near its extremity; along the top of it there is one row of spines; and on the edges a few more are irregularly dispersed. In the males of this species, the fins are full of spines.

Skates generate in March and April; when they swim near the surface of the water, several males generally pursuing one female. The females begin to cast their purses (as fishermen term those bags in which the young are inclosed) in May, and continue producing till September. In October they are very poor and thin; but begin to improve in November, and grow gradually better till May, when they are in the highest perfection. The males are sooner out of season than the females.

**SKIMMER.** An English appellation for a bird termed *rynchops* in Latin. See RYNCHOPS.

**SKOUT.** A provincial appellation for the lemming.

**SKRABBA.** A name by which some authors express the *scorpius marinus*, or *scorpcena*. See FATHER-LASHER.

**SKUA.** A bird of the gull kind, more usually denominated *cataracta*. It inhabits Norway, the Ferro Isles, Shetland, and the famous rock Foula; and is also found in the South Sea. It is the most formidable of the gull tribe, preying indiscriminately on fish, fowls, and even young lambs. It defends its young with all the intrepidity of the eagle; and when any inhabitant of the Ferro islands visits its nest, it attacks him with such courage, that he is obliged to hold a knife in an erect posture over his head, on which the Skua usually transfixes itself in its fall on the invader. In Foula, it is a privileged bird, because of its defending the flocks from eagles; and a fine is imposed on every person who destroys any of them.

**SKUNK;** the *Chincke* of Buffon. An animal of the weasel kind, having short round ears, black cheeks, and a white stripe extending from the nose to the back. The upper part of the neck and the whole back are white, divided at the bottom by a black line, commencing at the tail, and passing a little way up the back. The belly and legs are black; the tail is very full of long coarse hair, generally black, sometimes tipped with white; and the nails on the feet are long, like those on the fore-feet of the badger.

This animal inhabits Peru, and North America, as far as Canada. Its smell, like that of the genus in general, is highly offensive; and its manners are nearly similar.

**SLEEPERS.** A term by which some naturalists express such animals as sleep during the winter; of which kind are bears, marmottes, dormice, bats, and hedge-hogs. These, and many others, neither feed in winter, nor have any sensible evacuations: they likewise breathe very little, if any; and most of the viscera cease from their functions.

**SLOATH, or SLOTH.** An animal remarkable for the slowness of its motion: of which we meet with two varieties, distinguished from each other by their claws; the one having only two claws on each foot, and being destitute of a tail; the other having a tail, and three claws on each foot. The former, in its native country, obtains the name of *Unan*; and the latter, of *Ai*. The snout of the *unan* is longer than that of the *ai*, the ears are more apparent, and the fur is different. In the number of ribs too they greatly differ; the *unan* having forty-six, and the *ai* but twenty-eight. But, notwithstanding these differences are so very perceptible, they have been but little regarded in the description of two animals which bear so strong a resemblance to each other in the general outlines of their figure, in their appetites, their nature, and their helpless formation. One general description will therefore suffice, since the two varieties chiefly differ in the respects already specified.

**SLOATH, THREE-TOED, or Ai;** the *Bradypus Tridactylus* of Linnæus. This animal is about the size of a badger: its fur is coarse and irregular, in some degree resembling dried grass; its tail is so very short, as to exhibit little more than a stump; and its mouth extends from ear to ear. It has a blunt black nose; very small external ears; and small heavy black eyes. The legs are thick, and awkwardly placed. The colour of the face and throat is a dirty white; the body and limbs



limbs are covered with a lightish brown-coloured hair, and the feet proceed from the body in such an oblique direction, that the soles seldom touch the ground: when the animal, therefore, is obliged to step forward, it scrapes on the back of the nails along the surface, and then wheeling the limbs circularly about, it at length places its foot in a progressive position: the other three limbs are brought about with equal difficulty; and then it travels at the rate of about three yards in an hour. The poor creature, indeed, seldom changes its place, unless by constraint, and when strongly impelled by hunger.

The Sloth inhabits many parts of the eastern coast of South America. It is the meanest, most sluggish, and ill-formed, of all existences. It subsists entirely on vegetable food, particularly the leaves and fruit of trees; and often feeds on the very bark when nothing else remains on the tree for its sustenance. It is a ruminant animal; and, like those of the kind, has four stomachs, which consequently require a large portion of food to supply them. In less than a fortnight, it generally strips a large tree of all its verdure: while any thing remains that can satisfy its hunger, it is very unwilling to descend; but, when totally destitute of provisions above, it crawls slowly from branch to branch in quest of somewhat to pacify the cravings of its appetite; and at last is obliged to risque the dangers that await it below.

The utmost exertions are requisite in order to this animal's ascending a tree: but being utterly unable to descend in a similar manner, it rolls itself into a ball, and thus drops from the branches; and as it can by no means break the violence of its descent, it falls to the ground like a heavy, unanimated mass: there it remains for some time without apparent sensation, or at least totally inactive. Having recovered from the effects of its fall, it now prepares for a journey to some neighbouring tree. This is the most tedious and painful expedition that can possibly be conceived: the travelling to a tree at the distance of one hundred yards, proves the toilsome labour of a whole week. Its motions are almost imperceptible, and it frequently baits on the road. At every effort to move, it utters a most plaintive and melancholy cry, at once productive of pity and disgust; and this lamentable sound appears to be its chief defence, as every beast of prey is so affected by it as to quit the Sloth with horror. Being arrived at the destined tree, it ascends the same with greater ease than it moved on the plain; and no sooner has it gained its ascent, than it falls to with a most voracious appetite; and by greedily devouring both the leaves and the bark, destroys the very source of its sustenance.

The very aspect of the Sloth is so deplorable, as to excite compassion; and its cry is generally accompanied with a kind of tears which dissuade every animal from injuring such a wretched creature. Its abstinence from food, notwithstanding the eagerness of its appetite, is so very remarkable, that one of the kind has been known to subsist forty days without any nourishment whatever. The strength of its feet is so extraordinary, that whatever it seizes on can by no means escape from its claws: and Kircher informs us, that a Sloth seized a dog with its feet, and held him four days in that situation, at the end of which the poor animal perished through hunger.

Were we to judge of the happiness of this ani-

mal by our own sensations, it is certain that nothing can be more miserable; but it may probably have some store of comfort with which we are unacquainted, and which may place it on a level with various other ranks of the creation. If it is sometimes fatigued with labour, distress, or pain, it is compensated by a larger proportion of plenty, indolence, and security. Sloths are, however, very differently formed from all other quadrupeds, and doubtless have different enjoyments. Like birds, they have but one common vent for the purposes of propagation, and their natural evacuations: and, like tortoises, which they resemble in the slowness of their motion, they are possessed of the vivacious principle for a considerable time after their nobler parts are taken away.

But, insignificant as this creature certainly is, we may discover abundant traces of a kind Providence in its formation and preservation. Though not designed for motion, its feet are nevertheless furnished with claws, which enable it to maintain that station which its necessities call for. Helpless as it is, and liable to a thousand mischances, its voice and appearance are generally sufficient to protect it from more powerful animals; and as it would be impossible for a creature of such imperfect formation to procure water after the manner of most other animals, Nature has indulgently taken care that it should experience no inconvenience from the want of it.

SLOATH, TWO-TOED, OR UNAN; the *Bradypus Didactylus* of Linnæus. The variations of this animal from the preceding having been already noticed, we need only observe, that it inhabits South America and the isle of Ceylon; though Buffon has fixed the residence of the kind to America alone. Seba expressly says, that his specimen was imported from Ceylon; and Pennant assures us, that he was informed by a gentleman distinguished in the literary world, and long resident in India, that he had seen this animal brought from the Paliacat mountains, which lie in sight of Madras. Hence it is evident that it is common to both continents.

Barbot and Bosman describe an animal by the name of potto, that is a native of Guinea; and, from every circumstance of their description, we may conclude it to be at least a variety of the Sloth genus: for those naturalists were too observant of the Guinea animals to mistake one whose characters were so strongly marked as those of the Sloth.

SLOE-WORM. An insect found on the leaves of the sloe, or black thorn; and sometimes on those of the garden-plum. It belongs to that class of insects called by French naturalists *fausses chenilles*, or bastard caterpillars.

All the animals of this class are very remarkable for the different figure they exhibit after the last change of their skins; but this is more obvious in none than in the Sloe-insect, which is of a greyish hue, with long spines of a deep brown colour: these give the animal a very remarkable figure, and are cast off with the several skins, while the new coverings have others in their place; but in the last transformation preceding that into the nymph state, the change made in the creature is such, that nothing but ocular demonstration could convince a person that it was the same.

After this transformation, the insect becomes perfectly smooth, and of a dirty yellowish colour, without the least appearance of spines, or the slightest



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lightest variegation. Thus it remains till it goes into the nymph state; and from that, after an interval of about sixteen days, it appears in the shape of a four-winged fly.

**SLOTH.** See **SLOATH.**

**SLOW-WORM.** An English appellation for the *Cæcilia*, or *Anguis Fragilis* of Linnæus; called also the blind-worm; and by some authors the deaf-adder. In the Linnæan system it is a species of the *anguis*, or snake; the term *Cæcilia* being appropriated to a distinct genus of serpents.

The Slow-Worm is distinguished from all other snakes of this country by its smallness; and the shape of its tail, which runs out a great way beyond the anus, and yet is blunted, and pretty thick at the extremity. The back is cinereous, marked with small lines composed of minute black specks. The sides are of a reddish cast; and the belly is dusky; both marked like the back. The tongue is broad and forked; the teeth are numerous, but minute; and the scales are small. It is slow in its motion; and perfectly inoffensive in its nature.

These creatures lie torpid during the winter; and are sometimes found in vast numbers twined together. The female brings forth her young alive, like the viper.

**SLUG.** See **LIMAX.**

**SMARIS.** A small Mediterranean fish; a species of the *sparus* in the Linnæan system. It is seldom more than four inches long. The back and sides are of a dusky blackish green colour, without any variegations; but on each side, near the middle of the body, there is a large black spot. The gill-fins and tail are of a faint red hue; the irides are of a brownish white; and the tail is bifid.

**SMATCH.** A provincial appellation for the common oenanthe.

**SMEAR-DAB.** A species of the Dab sometimes caught in Cornwall. It is about eighteen inches long, and twelve broad between fin and fin on the widest part. The head is small; the dorsal fin rises near the mouth, and extends to the tail; the eyes are placed pretty near each other; and the mouth is replete with small teeth. The lateral line is much incurved for the two first inches from its origin, and then continues straight to the tail. The back is covered with small smooth scales, of a light brown colour, obscurely spotted with yellow; and the belly is white, and marked with five large dusky spots. The flesh is reckoned as delicate as that of the common Dab.

**SMELT;** the *Salmo Eperlaus* of Linnæus. This fish has been generally referred by ichthyologists to the truttaceous tribe; and it is universally allowed to have a general external resemblance to the salmon. According to Pennant, it inhabits the seas of the northern parts of Europe; and he apprehends it is never found so far south as the Mediterranean; though, if we may depend on the observations of navigators, it has sometimes been caught in the Straits of Magellan, where it usually measures twenty inches in length, and eight in circumference.

These fish frequent such seas as wash the British isles the whole year; never migrating far from the shore, except when they ascend the rivers. It is remarkable, that in certain rivers they appear a long time before they spawn; being caught in great abundance, during the months of No-

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vember, December, and January, in the Thames and Dee; but in others, not till February: and in March and April they spawn; after which they revisit the salt water, where they continue till the time of their annual migration.

Smelts vary much in size; but the largest which have come to our knowledge weighed half a pound. They have a particular scent; from whence their English appellation, Smelt (i. e. Smell it) seems to be derived. However, different nations are much divided in their opinion as to the flavour of this fish: some assert that it smells of the violet; and the Germans, for a very different reason, distinguish it by the degrading title of the *stinckfish*.

The head of the Smelt is of a very beautiful shape and colour; so extremely transparent, and the skin in general so thin, that, with the assistance of a good microscope, the blood may be observed to circulate. The irides are silvery; and the pupil is of a full black colour. The under jaw is the longest: the front of the upper jaw is armed with four large teeth, those in the sides of both being small. In the roof of the mouth there are two rows of teeth; and on the tongue are two more rows of pretty large teeth. The first dorsal fin has eleven rays; the pectoral fins have the same number; the ventral eight; and the anal fourteen. The scales are small, and easily deciduous. The tail, which is bifid, consists of nineteen rays. The back is of a whitish colour with a cast of green, beneath which it is varied with blue; and to this succeeds a beautiful gloss of a silvery hue.

Smelts are frequently sold in the streets of London split and dried. They sometimes receive the appellation of sparlings in this state; and are recommended as excellent in the morning, accompanied with a glass of wine.

**SMELT** is also a name by which the fishermen of Yorkshire, and some other counties, denominate the salmon in its first year.

**SMEW.** An English appellation for the common mergus; usually known among naturalists by the names *albellus*, and *mergus cirratus*.

This bird weighs about thirty-four ounces; its length is eighteen inches; and the expansion of its wings is twenty-six. The bill is near two inches long, and of a lead colour; the head is adorned with a long crest, white above, and black beneath; and a large oval spot, glossed with green, extends from a little beyond the eye to the bill. The head, neck, and whole under-side of the body, are of a pure white colour; and on the lower part of the neck there are two semilunar lines, pointing forward. The inner scapulars, the back, the coverts on the ridge of the wing, and the greater quill-feathers, are black; the middle rows of coverts are white, the next being black, tipped with white; the lesser quill-feathers are the same; the scapulars next the wings are white; the tail is of a deep ash-colour; and the legs are of a blueish grey.

The female is less than the male. The marks on the wings are the same in both sexes: the back, scapulars, and tail, are dusky; the head, together with the hind part of the neck, are ferruginous; the chin, and the fore-part of the neck, are white; the breast is clouded with grey; the belly is white; and the legs are dusky.

**SMOOTH-SHAN.** A provincial appellation for the smooth blenny; the *Blennius Pholis* of Linnæus. See **BLENNY.**

**SMYRUS.**



**SMYRUS.** A name by which Pliny has expressed the *Muræna Myrus* of Linnaeus. Aræti makes this fish a species of *muræna*; and distinguishes it from the rest of that genus by the appellation of the *muræna* with a sharp snout, variegated with white spots, and with the edge of the dorsal fin black.

**SNAIL.** A genus of the testacea order of worms: the characters of which are; that the animal is a slug; the shell univalve, spiral, sub-pellucid, and brittle; and that it has a semilunar aperture.

The first striking peculiarity of the Snail tribe that presents itself to a spectator, is, that it's eyes are situated on the points of it's longest horns. When the Snail is in motion, four horns are distinctly seen: but the two uppermost and longest deserve peculiar consideration, both on account of the various motions with which they are endued, and their having eyes fixed at their extremities. These appear like two blackish points: when taken out of the body, they exhibit a bulbous figure; they have only one coat; and the three humours which are common in the eyes of other animals, the vitreous, the aqueous, and the chrySTALLINE, are in these very distinctly seen. The animal can direct these eyes to different objects at pleasure, by a regular motion of the body; and sometimes it hides them, by a very swift contraction into the belly. The animal's mouth is placed under the small horns; and though it may appear too soft a substance to be furnished with teeth, yet it has no less than eight of them, with which it devours leaves, and other substances seemingly harder than itself; and sometimes bites off pieces of it's own shell.

But the most singular circumstances in the conformation of this animal, are the parts that serve for generation. Every Snail is at once male and female; and while it impregnates another, is itself impregnated in it's turn. The vessels which supply the fluid for this purpose, are chiefly situated in the fore-part of the neck, and extend themselves over the body; but the male and female organs of generation are always found united, and growing together. There is a large opening on the right side of the neck, which serves for very different purposes: as an anus, it gives a passage to the excrements; as a mouth, it serves for an expiratory duct; and also, as an organ of generation, it dilates when the desire of propagation commences. Within this opening each animal has those parts, or something similar to them, which continue the kind.

Some days before coition, the Snails assemble together; and lying quiet near each other, eat very little; but they settle the body in such a posture, that the neck and head are placed erect. In the mean time, the apertures on the side of the neck being greatly dilated, two organs, resembling intestines, issue from them, which some have apprehended to be the instruments of propagation. Besides the protrusion of these, each animal is possessed of another peculiarity; for, from the same aperture, they protrude a kind of dart, which is pretty hard, barbed, and terminates in a very sharp point: this they apply to each other when the apertures approach, each weapon being received by the other, though it sometimes falls to the ground. Some minutes afterwards, the Snail which received the weapon darts one of it's own at it's antagonist, which is received in a simi-

lar manner. They then softly approach still nearer, and apply their bodies to each other, as closely as the palms and fingers of the hands when grasped together: at that time the horns are seen moving in all directions; and this sometimes for three days together. The coupling of these animals is generally thrice repeated, at intervals of fifteen days each; and at every time a new dart is mutually ejected.

Eighteen days being expired, the Snails produce their eggs by the apertures of their necks, and bury them in the ground with the greatest care and industry. These eggs are very numerous, round, white, and covered with soft shells: they are also united to each other by an imperceptible slime, like a bunch of grapes, of about the size of a small pea.

When the Snail leaves the egg, it is observed with a very small shell on it's back, having only one convolution: but, in proportion as it grows, the shell increases in the number of it's spiral turns. The addition is always at the mouth, the first centre still remaining; the animal sending forth from it's body that slime which hardens into a stony substance, and is still fashioned into similar convolutions. The Garden-Snail has seldom more than four rounds and a half; but some of the Sea-Snails acquire ten.

Thus fitted with it's covering, which is light and firm, the Snail finds itself defended in a very ample manner from all external injury; and, whenever invaded, it is only retiring into this fortress, and waiting patiently till the danger is over. Nor does it only possess a power of retreating into it's shell, but also of mending it when broken.

Sometimes the shells of these animals are crushed to pieces, and, to all external appearance, utterly destroyed; still, however, they set themselves to work, and in a few days repair their numerous breaches. The same substance of which the shell is originally fabricated, serves for the re-establishment of the ruined habitation: but all the junctures are easily seen, having a fresher colour than the rest; so that, after this operation, the whole shell resembles a patched coat. Sometimes they are seen with eight or ten of these patches; so that the damage must have been apparently irreparable: still, however, though the animal is possessed of the power of mending it's shell, it cannot, when arrived at it's full growth, make a new one. Swammerdam tried the experiment. He divested a Snail of it's shell, without injuring any of the blood-vessels, retaining that part of the shell where the muscles were inserted; but the creature died in three days after being stripped of it's covering: not, however, without making some efforts to build a new shell; for, before it's death, it pressed out a certain membrane round the whole surface of it's body: this membrane was entirely of the shelly nature; and seemed intended by the animal as a supply towards a new one.

The Snail being furnished with all the organs of life and sensation, it is no wonder that we find it extremely voracious. It chiefly subsists on the leaves of plants and trees, but is extremely delicate in it's choice. When in quest of food, it moves forward by means of that broad muscular skin which is sometimes seen projecting round the mouth of the shell: this is expanded before, and then contracted with a kind of undulating motion, like a person attempting to move himself forward



by the help of one arm when lying on his belly. But the Snail has another advantage, by which it not only smoothes it's way, but also ascends in the most perpendicular direction. This is effected by means of that slimy substance with which it is so copiously furnished; and which it emits whenever it moves. On this slime, as on a kind of carpet, it proceeds slowly along, without any danger of lacerating it's tender body on the asperities which lie in it's way: by the assistance of this glutinous matter it ascends trees for the purpose of feeding; and also descends by the same aid, without danger of falling, and breaking it's shell by the shock.

These animals are extremely injurious to gardeners; and therefore every method of destruction is practised for their extirpation. Salt or foot will prove their bane; but a tortoise, turned loose in a garden, is said to banish them most effectually.

At the approach of winter, the Snail buries itself in the earth, or retires to some hole, where it continues in a torpid state during the severity of the season. It is sometimes found singly in it's retreat, but more frequently in company. For the purposes of greater warmth and security, it forms a kind of cover for the mouth of it's shell; which stopping it up entirely, protects it from every external injury: it is composed of a whitish substance somewhat resembling plaister, pretty hard and solid, but at the same time porous and thin, for the admission of air, without which the creature cannot exist. When this cover happens to be too thick, the Snail makes a small hole in it, which corrects the defect of that closeness originally proceeding from extreme caution. In this manner, sheltered in it's hole from the weather, and defended in it's shell by a cover, it sometimes lies torpid for six or seven months, till the genial warmth of the returning spring awakens it to a state of activity.

The Snail generally recovers it's dormant faculties the first fine days in April; breaks open it's cell, and comes forth in quest of nourishment. It is not at all surprising that so long a fast should have much reduced this animal, and rendered it very voracious. At first, therefore, it is not very nice in the choice of it's food; almost every vegetable that is green seems to be acceptable: but the succulent plants of the garden are peculiarly grateful; and the various kinds of pulse are, at some seasons, almost wholly destroyed by these creatures. So great is the multiplication of Snails at times, that some gardeners have entertained the weak idea of their having burst from the earth. A rainy season generally contributes much to their increase; for they seem incapable of existing either in very dry situations or seasons, as their slime, without which they cannot live, is then consumed in too great abundance.

Such are the most striking particulars in the general history of the Snail; and may serve as the outlines of the whole tribe, which is pretty numerous. Naturalists, indeed, have enumerated fifteen species of the Sea-Snail; eight of the Fresh-water Snail; and five of the Land-Snail: these all bear a strong resemblance to the Garden-Snail in the formation of their shells, in their hermaphrodite nature, in the slimy substance with which they are covered, in the formation of their intumescence, and the disposition and use of the aperture on the right side of the neck, which serves at once for the discharge of the feces, for lodging the instruments of generation, and for respiration, when

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the animal is under the necessity of admitting a fresh supply.

Nevertheless, no two kinds of animals in nature, however much they may resemble each other in figure and conformation, are the same both as to manners and dispositions. Though the common Garden-Snail bears a strong similitude to that of fresh-water, as well as that of the sea, yet there are distinctions to be found, and such too as are pretty considerable.

If we compare Land-Snails with those of fresh-waters, one or two remarkable variations will be obvious. First, the Fresh-water Snail, like most other animals destined for an aquatic life, is peculiarly endued by Nature with the faculty of either rising to the surface, or sinking to the bottom; and the manner in which this is performed, is by opening and shutting the orifice on the right side of the neck, which is provided with muscles for that purpose. The Snail sometimes collects this aperture into an oblong tube, and stretches it above the surface of the water, in order to draw in or expel the air, as occasion requires. This is not only perceptible to the eye, but may be judged by the ear, from the noise which the creature makes in moving the water: by the dilatation of this, it rises to the surface; and, by it's compression, it sinks to the bottom.

But there is a circumstance which renders Snails far more worthy of notice, namely, their viviparous nature; their young being not only produced alive, but also with their shells on their backs. However incredible this may appear, it is nevertheless incontestably true: the young arrive at some degree of perfection in the womb of the parent; there they receive their stony coat; and from thence are excluded with all the necessary apparatus for their subsistence.

'On the twelfth of March,' says Swammerdam, 'I began my observations on this Snail; and collected a great number of the kind, which I put into a large basin filled with rain-water, and fed for a considerable time with potter's earth dissolved in the surrounding water. On the thirteenth of the same month, I opened one of these Snails, when I found nine living young in it's belly, the largest of which were placed foremost, as the first candidates for exclusion. I put them into fresh-water, and they lived to the eighteenth of the same month, moving and swimming like Snails full grown: nay, their manner of swimming was much more beautiful.' Thus, at whatever season of the year these Snails are opened, they are found pregnant with eggs, or with living Snails, or with both together.

This striking difference between Fresh-water and Garden-Snails obtains also in some of the sea kind; among which some are found to be viviparous, and others oviparous. In general, however, the Sea-Snails bring forth eggs; from whence the animal bursts, at a proper state of maturity, completely equipped with a house, which the fluidity of the element where it resides does not prevent it from enlarging. How the soft slime of the Snail hardens, at the bottom of the sea, into the stony substance of a shell, is not easily conceived: the only reasonable conjecture seems to be, that this slime must possess some unknown petrifying quality.

All animals of the Snail kind, as previously remarked, are hermaphrodites, each containing the instruments of generation double. But some of



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the sea kinds copulate in a different manner from those of the garden: the one impregnates the other; but, from the position of the parts, is incapable of being impregnated by the same in its turn. For this reason, it is necessary for a third to be admitted as a partner in this operation; so that, while one impregnates that before it, another performs the same office by this, which is itself impregnated by a fourth. After this manner, Mr. Adanson has observed vast numbers of Sea-Snails, united together in a chain, impregnating each other. The bulin and coret perform the offices of male and female at the same time: the orifices in these two both separate from each other, the opening by which the animal performs the office of the male being at the origin of the horns; that by which it is passive, as the female, being farther down at the neck. It may also be observed as a general rule, that all animals with this orifice, or verge, as some call it, on the right side, have their shells turned from the right to the left; on the contrary, those which have it on the left side, have their shells turned from left to right, in a contrary direction to the former.

But this is not the only difference between Land and Sea-Snails. Many of the latter entirely want horns; and none of them have more than two. Indeed, if the horns of Snails be furnished with eyes; and if, as some are inclined to believe, the length of the horn, like the tube of a telescope, assists vision; these animals, which chiefly reside in the gloomy bottom of the deep, can have no great occasion for them. Eyes would be useless to creatures whose food is usually concealed in the darkest situations; and who, being possessed of very little motion, are obliged to grope about for the articles necessary to their subsistence.

Sea-Snails are much larger than land ones. The sea indeed seems to possess a property of enlarging the magnitude of all its inhabitants; and the same proportion that a trout bears to a shark, is often seen to obtain between a shell bred on the land and one produced in the ocean.

Linnæus divides Snails into three kinds, viz. the Earth, the Marsh, and the Sea-Snails. There are eleven species of the Earth-Snails; sixteen of the Marsh, or Fresh-water Snails; and six of the Sea-Snails; according to this great naturalist's distribution.

Pennant enumerates the following species as natives of the British isles: the rock, the grey, the flat, the whirl, the dwarf, the horny, the mottled, the exotic, the garden, the shrub, the variegated, the viviparous, the zoned, the pellucid, the eight-spined, the lake, the mud, the ear, the smoothed, and the olive Snail.

**SNAIL, NAKED.** There are several varieties of this kind; of which the subsequent are the most remarkable.

**SNAIL, BLACK.** This creature is somewhat of a subcylindric shape, perforated on the side. It has four feelers, on two of which its eyes are situated. The length is about three inches; the diameter is half an inch; and the head and tail are smaller than the middle. The back is convex; the belly is flat; and the whole body is furrowed and wrinkled very considerably. The whole upper part is entirely black; but the belly is greyish. The feelers are protruded or pulled in at the pleasure of the animal; and the body is covered with a sort of slime resembling that of the eel. It is of both sexes; and possesses the fa-

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culty of impregnating and being impregnated at the same time.

This species is extremely common in woods, under hedges, and almost in every damp situation, particularly in moist weather.

**SNAIL, REDDISH.** This animal is about two inches long, and smaller in proportion than the black Snail. The body is covered with a great number of furrows or wrinkles; and the whole upper part is of a dusky red hue, except the belly, which is grey.

**SNAIL, SPOTTED, YELLOW.** This variety, when full grown, is about one inch and a half long; the back is prominent, the body is somewhat hollowed; and the head is small. The entire surface is slightly furrowed or wrinkled, and covered with a slimy juice; and the colour is a glossy yellow, with a brownish cast, variegated with greyish spots. It is seldom seen in this island; and has never been discovered in the southern parts of England.

Besides the above, we meet with the large grey Snail, spotted with dusky brown; the little short, grey Snail, without dusky spots; the reddish brown Snail; the small dusky brown furrowed Snail; and the deep chocolate-coloured Snail. All these are naked, or destitute of shells.

**SNAKE.** In the Linnæan system, a genus of serpents, having abdominal and subcaudal scales. Here it must be observed, that Linnæus has distinguished the small scales with which the back and sides of the animals belonging to the class of serpents are covered, by the appellation of squamæ; and the oblong, narrow, transverse plates, with which the bellies of some of them are covered, by the name of scuta: those which are furnished both with squamæ and scuta, he distributes under the genus of coluber; those that have only squamæ, under the denomination of anguis. In conformity to this distinction, he has ranked the common Snake, as well as the viper, under the genus of coluber; and classed sixteen different species, of which the common slow-worm is one, under that of anguis.

**SNAKE, ANNULATED.** See AMPHISBOENA.

**SNAKE, COMMON, OR RINGED;** the Coluber Natrix of Linnæus. This is the largest of English serpents, sometimes exceeding four feet in length. The neck is slender; the middle of the body is thickest; the back and sides are covered with small scales; and the belly with oblong, narrow, transverse plates. The colour of the back and sides is dusky or brown; the middle of the back is marked with two rows of small black spots, running from head to tail; and from them proceed multitudes of lines of spots crossing the sides. The plates on the belly are dusky; and the scales on the sides are of a blueish white colour. On each side of the neck there is a spot of pale yellow; and the base of each is a triangular black spot, one angle of which points toward the tail. The teeth, which are small and serrated, are placed on each side of the jaw in a double row.

This animal, which is perfectly innoxious, feeds on frogs, insects, worms, and mice; and lodges among bushes in moist situations. It lays its eggs in dunghills and hot-beds, whose heat, aided by that of the sun, promotes the exclusion of its young; and, during winter, continues torpid in the banks of hedges, and under old trees.

**SNAKE, HORNED.** See CERASTES.

**SNAKE, OAK.** See DRYINUS.

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**SNAKE, RATTLE.** A terrible kind of serpents, of which Linnæus enumerates five species, all natives of the New World, and highly venomous. The characters of the genus are; that they have abdominal scuta or shields, and subcaudal scuta and squamæ, or scales; and that their tails terminate in corneous rattles. See RATTLE-SNAKE.

**SNAKE, SAND.** An English appellation for a species of Libyan serpent, more usually denominated ammodytes. See AMMODYTES.

**SNAKE, SEA.** A name by which some ichthyologists express a fish of the eel kind, the cylindric muræna, having the tail naked and acute, commonly five or six feet long; with a furrowed body, of an equal thickness till near the tail. This fish is a native of the Mediterranean; and its flesh is esteemed agreeable food.

Pontoppidan, in his History of Norway, mentions another marine animal, which he calls a Sea-Snake, of the most prodigious dimensions; and of whose existence we should be disposed to doubt, did not the veracity of the author, and the testimonies he has adduced, remove every kind of suspicion.

These animals, some of which are said to be no less than six hundred feet long, are very dangerous to navigators, throwing themselves over vessels of some hundred tons burden, and sinking them at once. Castor, however, is esteemed a certain preservative against their approach; the smell of that drug being said to keep them at a distance. Pontoppidan supposes these creatures to be the leviathans of Holy Writ.

**SNAKE, SLEEP.** See HYPNOTICUS SERPENS.

**SNAKE, SPECTACLE.** An appellation sometimes given to that terrible creature the cobras de capello.

**SNIEGULKA.** A Polish name for a migratory bird in that country, which visits it only during the colder months of the year.

The name imports the snow-bird; and hence Rzaczinski, in his History of Poland, calls it nivalis avis. The natives, from the time of its appearance, presage the mildness or severity of the ensuing winter.

**SNIFE;** the Scolopax Gallinago of Linnæus. A well known bird; which, though generally one of passage, sometimes remains in this country during the whole year, where it builds and breeds. Its young, indeed, are so often seen in England, that Pennant questions whether it ever quits this island. Certain it is, that the Snipe breeds in the northern counties of Scotland. It frequents marshy places; builds an inartificial nest among reeds or rushes; and lays four or five eggs of a dirty olive colour, marked with dusky spots.

When these birds are alarmed, particularly during the season of incubation, they soar to a great height, making a peculiar bleating noise; and in their descent darting with vast rapidity. The cock is observed, while his mate sits on the eggs, to poise himself on his wings nearly over the spot, sometimes making a whistling, and sometimes a drumming, noise. Their food seems to be of the same nature with that of woodcocks; and they are natives of all climates, and each quarter of the globe. The breast and belly of the Snipe are of a dull white colour; the back is covered with long plumage, variegated with black and reddish brown; the tail is short, and hid by the wings when folded; a line of reddish white runs along the middle of the head; and the beak is about

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two inches and a half long, black at the extremity, and beset with several rough tubercles.

Snipes are easily taken, by means of lime-twigs, in the following manner: Take fifty or sixty birchen twigs; lime them all well together; and place them in situations frequented by these birds, about a yard distant from each other. These twigs are not to be placed perpendicularly in the ground, but sloping, some one way, and some another. This done, the sportsman is to retire to some distance, and wait the arrival of his game. When the birds fly near the twigs, they naturally take a sweep round the earth; and, by this means, some of them will in allibly be entangled. When the first Snipe is taken, the sportsman must not run up to secure it; for it will sometimes feed quietly, with the twig under its wing; and the sight of one frequently allures others to the same place. When three or four are entangled, they may be taken, leaving one as a decoy; and thus the sport may be continued as long as there are any Snipes in the vicinity.

**SNIFE, GREAT.** This species, which is rarely seen in England, weighs eight ounces: the head is longitudinally divided by a testaceous line, bounded on each side by another of black; and above and beneath each eye there are similar lines. The neck and breast are of a yellowish white hue, beautifully marked with semicircular black lines; the belly is adorned with cordated spots; and the sides are undulated with black. The back, the coverts of the wings, and the scapulars, are testaceous, spotted with black, and edged with white; the primaries are dusky; the tail is rust-coloured, barred with black; and the legs are black.

**SNIFE, JACK.** An appellation by which ornithologists sometimes express a Snipe common in Britain, about half the size of the common Snipe, or scolopax gallinago. See JACK SNIFE.

**SNIFE, MIRE.** A provincial name for the bittern; called also the mire drum. See BITTERN.

**SNOW-BIRD;** the Emberiza Nivalis of Linnæus. This bird, which is a native of Hudson's Bay, has a brown-coloured bill, with a black point; the lower mandible has an angle on each side, which is received into corresponding cavities on the side of the upper mandible; and in the roof of the mouth there is a protuberance, as in the bunting and yellow hammer. The head, neck, and whole under side of the bird, are white, except a small black spot on the hinder part of the head. The back, and feathers immediately covering the tail, are black; and the rump between them is white. A few of the quills next the back are black, the succeeding ones being white; and the longest or extreme ones are black at their tips, and white at their bottoms. All the coverts of the wings are white, except a few falling over the black quills near the back. The tail is composed of twelve feathers, the six middlemost of which are black, and the three extreme ones on each side white, with a small dash of black down their shafts at the tips; and the legs, feet, and claws, are black.

It seems probable that this bird assumes its white colours at the approach of winter only: at other seasons of the year, its plumage is different.

**SOCO.** A Brazilian bird of the ardea kind; the Ardea Brasiliensis of Linnæus. It is singularly remarkable for the extreme length of its neck; it is smaller than the common heron; its beak is strong, straight, and sharp; its tail is short;



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short; its head and neck are brown, variegated with black; and its body is of the same colours in different variegations; but its wings have an admixture of white.

**SOFFIETTA.** A name by which some authors express the bellows-fish, called also the scopolax. It is a native of the Mediterranean sea; and is commonly exposed to sale in the markets of Rome and Venice.

**SOLAND GOOSE.** See **GOOSE.**

**SOLDIER CRAB.** See **CRAB.**

**SOLE;** the *Pleuronectes Solea* of Linnæus. A fish common on every part of the British coasts; but the Soles of the western shores are much larger than those of the northern. On the western coasts they frequently weigh six or seven pounds each; but, towards Scarborough, they rarely exceed one pound; and, when they reach two, are considered as curiosities. They are usually taken with the hawnet. They keep much at the bottom, where they feed on small shell-fish.

The irides of the Sole are yellow; the pupils are of a bright sapphirine colour; the scales are small, and very rough; the upper part of the body is of a deep brown hue; the tip of one of the pectoral fins is black; the under part of the body is white; the lateral line is straight; and the tail is rounded at the extremity.

This fish is in high estimation for its extreme delicacy; but the small-sized Sole is much preferable to the large; and, from its excellent flavour, it has sometimes been denominated the queen of the sea. The chief fishery for Soles is at Brixham, in Torbay.

**SOLE, SMOOTH.** This fish, according to Ray's description, is extremely thin, pellucid, and white; and covered with such minute scales, and those instantly deciduous, as to merit the epithet Smooth. It is a rare species: sometimes, however, caught in Cornwall, where, from its transparency, it is called the lantern-fish.

**SOLEIL DE MER.** A French appellation for a peculiar species of star-fish, of a small size; the legs of which bear a strong resemblance to the tails of lizards, and are very brittle.

**SOLEN;** the Razor-shell-fish. A genus of shell-fish: the characters of which are; that they have bivalve shells, with oblong bodies; and are open at both ends; usually straight, but in some species crooked. The enclosed animal is an ascidia.

The name *Solen* is derived from the Greek: in which language that word expresses a pipe or tube; this fish, when the shells are closed, very aptly resembling a tube. Latin authors have given it the denomination of *unguis*, from its resemblance in colour and consistence to the human nail.

Rondeletius observes, that there are, among the Solens of the same species males and females, which are easily distinguishable from each other; and that the females are larger, have no variegations on the shells, and are much better tasted than the males.

Pennant enumerates the following species as natives of the British shores: the pod, the sheath, scymetar, pellucid, suboval, and kidney.

The Solen lives in the sand within flood-mark, where it often buries itself one foot and a half, or two feet deep: the length of the shell is at this time nearly in a vertical position; and the fish possesses a power of raising itself at pleasure to the

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surface; and sinking down again; the shell remaining all the while buried in its place.

Almost all other animals have an horizontal motion; and the marine shell-fish crawl along under water, as the common land creatures do on dry land: but this animal's progressive motion is only vertical, and that confined to a very narrow compass; all that it is able to effect being only to raise itself higher or lower, within the narrow compass of two feet at the utmost, as proceeding beyond that would certainly prove fatal. Where these shell-fish are buried in the sand, there is an open communication from their residence to the surface, by means of which the water has free admission. These holes are generally pretty numerous in the vicinity of each other, and easily distinguished when the tide has left the shore uncovered: they are of an oblong shape; and somewhat resemble the key-hole of a lock, except that they have a roundness at each extremity.

When the Solen has occasion to ascend out of its hole, nothing farther is necessary than thrusting out the end of its leg, swelling it, and afterwards extending itself to the length of that leg; then retracting it into the shell again, and thrusting out and inflating its extremity for a second movement of the same kind. These motions may be all perceived in the creature when out of the sand, particularly that by which it buries itself; for, if held up between the fingers, it protrudes the leg, and performs all the motions, as if lodged in the sand; making a natural but ineffectual attempt for its preservation.

**SOLITARY WORM;** *Solium*, *Tænium*, and *Lumbricus Latus*. A species of Worm sometimes found in the intestines, and which is always single, as commencing from the pylorus, and extending thence the whole length of the intestines, so that there is no room for any other. See **TÆNIA** and **LUMBRICUS LATUS**.

**SOLIPUGA, or SOLIFUGA.** An appellation by which the Romans express a small venomous insect of the spider kind; called by the Greeks *Heliocentros*; both words denoting an animal whose effects are chiefly felt in those climates and seasons where and when the sun is most ardent. Solinus describes this insect as peculiar to Sardinia: it is, however, a native of several other parts of Europe, as well as of Africa.

This venomous little creature lies concealed under the sand, in expectation of seizing other small insects which incautiously intrude on its retreat; and if it happens to come in contact with any part of the human frame that is uncovered, it bites with great resolution. The wound is excessively painful and envenomed: and, indeed, some assert that the bite will prove mortal; but such assertion is not supported by any sufficient authority.

**SOREX, Shrew.** A genus of the order of feræ and class of mammalia, in the Linnaean system. Its distinguishing characters are; that it has two fore-teeth above, which are bifid; four below; and several canine teeth on both sides. There are five species; the crested *Sorex* of Pennsylvania; the minute of Siberia, weighing a dram, supposed by Linnæus to be the smallest of all quadrupeds, though Pallas reckons the pigmy, which weighs about half a dram, the smallest; the water-shrew; the murine, of Java; and the fœtid, or common. See **SHREW-MOUSE**.

**SOURDON.** An appellation by which the French



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**French conchologists** express a kind of bivalve shell-fish, found on the coast of Poitou, and in some other places. It is about one inch in length, and three-quarters of an inch in breadth: both the shells are considerably convex; the outer surface is deeply furrowed, but the inside is perfectly smooth.

This fish buries itself slightly in the sand; and has a pipe of communication, which it raises to the surface. The Sourdon is capable of a progressive motion by means of a limb, somewhat resembling that of the *chamæ*, to which it seems properly to belong.

**SOW.** The female of the hog kind. See **HOG**.

**SPANIEL**; the *Canis Avicularius* of *Linnaeus*: a variety of the *canis familiaris*; a species of dog used in fowling.

There are two varieties of this kind: the first, formerly used in hawking to spring the game, the same with our starters; the other applied only for the net, and formerly denominated *index*, or *setter*.

Britain has been famous for producing dogs of this sort, particular care having been taken to preserve the breed in it's utmost purity; so that, notwithstanding the name Spaniel is supposed to be derived from Spain, it is more than probable that the race is indigenous. The pointer, a dog of foreign extraction, was unknown to our ancestors. The aquaticus, or finder, was the same with our Water-Spaniel, and used to find or recover the game that was lost.

**SPANIEL, GENTLE.** An appellation by which some express the lap-dog. See **LAP-DOG**.

**SPANISH FLIES.** See **CANTHARIDES**.

**SPARGUS.** A name by which *Gaza* expresses the common *Sparus*; called also *fluta*.

*Artemis* distinguishes it by the appellation of the plain yellow *sparus*, with an annular spot near the tail.

**SPARLING.** A name by which the dried smelt is commonly known in London.

**SPARLING FOWL.** An appellation sometimes given to the female merganser, more usually denominated the dun-diver.

**SPARROW.** A large order of birds; for the distinguishing characters of which, see **PASSERES**.

As birds of the Sparrow kind are the favourites of mankind, they are chiefly seen in the vicinity of their habitations. All the great birds dread to approach the human race; and retire to the impenetrable shades of the forest, or the brow of the most craggy precipice: but these seldom resort to the thicker parts of the wood; they generally keep near it's edges, in the neighbourhood of cultivated fields; in the hedge-rows of farm grounds; and even in yards, where they mingle with the domestic fowl.

This partiality of Sparrows to the vicinage of men, does not, however, originate from any social affection on their part, as they approach inhabited grounds merely because their chief subsistence is found in such situations. In the depth of the desert, or the gloom of the forest, no grain is to be met with; none of those tender buds which are so grateful to their appetites: and insects themselves, which constitute such a large proportion of their food, are not found there in abundance. As we penetrate deeper into woods, the silence becomes more profound; every thing wears the look of awful stillness; there are none of those warblings, none of those murmurs, that awaken

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pleasing attention, as near the habitations of men; there is nothing of that indescribable buzz, formed by the united, though distant voices of quadrupeds and birds; but all is profound and solemn silence. If any sound is heard in these situations, it is such as must excite horror rather than pleasure: wild beasts roar; serpents hiss; and Nature puts on her most uninviting aspect.

Besides the natural desire of food, which is only to be found in the vicinity of man, these birds have another very strong inducement to seek his society. The greater birds, like robbers, chuse the most dreary deserts for their retreats; and, if they do not find, they create a solitude around them. The small birds fly from their tyranny; and seek protection where they know their most inveterate enemies will not dare to pursue them.

All birds, even those of passage, seem content with a certain district to provide food, and breed in. The red-breast and the wren seldom quit the field where they have been brought up, or where their young have been reared: even though persecuted, they fly along the hedges, and seem pertinaciously attached to the place where their fondest affections centre. The truth is, all these small birds prescribe limits to themselves, which they permit none of their own species to reside in; they guard their dominions with the most vigilant resentment; and two male tenants are seldom seen together in the same hedge. Thus, though Nature seems to have fitted these little animals for a life of unrestrained liberty and extensive excursion, they are satisfied with narrow limits; nor seek happiness in an enlarged sphere of action. Food and safety appear to be the only motives which interrupt their repose; and, when these are enjoyed, they seem contented: but as the former seldom continues throughout the whole year, almost every bird is then constrained to change it's abode. Some receive the appellation of birds of passage from their being obliged to undertake long journeys for this purpose; but, strictly speaking, almost every species is a bird of passage, though their migrations may be confined to places less remote. At some particular seasons of the year, all small birds migrate from one country to another, or from the more interior provinces towards the sea-coast.

Singing well nigh compleatly belongs to the Sparrow kind; and this delightful quality is almost universally the prerogative of the males. With birds it is the reverse of what occurs in the human kind. Among the feathered tribe, the most weighty concerns of life fall to the lot of the female: her's is the fatigue of incubation; and on her devolves the principal care of nursing the helpless brood. To alleviate these fatigues, and support her under them, Nature has assigned song to the male: this serves as a note of blandishment at first to attract her affections, as well as to delight her during the time of her incubation; but it serves still farther as a note of security, assuring her that nothing is at hand to molest her. The male, while his mate is hatching, perches on some neighbouring tree, continuing at once to watch and to sing. While the female hears his voice, she rests in confident security; but if any danger presents itself, the male, who till that moment was so loud and sportive, stops all of a sudden; and this is a sure signal to his mate instantly to provide for her own safety.



The nests of little birds seem of more elegant workmanship than those of the larger kinds. As the volume of their bodies is smaller, the materials of which their nests are composed are generally warmer, in order to maintain and preserve the necessary heat. But it sometimes happens that the little architects are disturbed in their operations; and then they are obliged to form their nests, not according to their inclinations, but their urgent occasions. The bird whose nest has been repeatedly robbed, constructs her last in a very slovenly manner; conscious that, from the near approach of winter, she must not spend her time in private accommodation and extrinsic ornament. When the nest is finished, nothing can exceed the cunning which the male and female employ in order to conceal it. If built in a bush, the pliant branches are so disposed as to conceal it entirely from the view; and, if among moss, nothing is externally visible that may indicate a habitation: it is always fixed near those places where food is to be procured with most facility; and the greatest care is taken to hide it's situation by quitting it while any plunderer is in sight.

The first food of all birds of the Sparrow kind consists of worms and insects. Even the Sparrow and the goldfinch, which, when adult, feed only on grain, have both subsisted on insects in their tender state. The young ones, for some time after their exclusion from the shell, require no food; but the parent soon discovers, by their chirping and opening their mouths, that they begin to feel the approach of hunger; and sedulously sets about providing them with a plentiful supply.

Such is the manner in which these birds bring forth and hatch their young: but it yet remains to usher them from the nest into life, and this they very assiduously perform. When fully fledged, and fit for short flights, the old ones, in favourable weather, conduct them a few yards from the nest, and then compel them to return. For two or three days successively they are led forth in the same manner, but each day to more distant adventures: and, whenever the parents perceive their ability to fly and provide for themselves, they bid them a perpetual adieu, and pay no more attention to them than to the rest of the flock.

In general, when birds set about pairing in the spring, they associate with those of their own age and place of abode. Their strength or courage is generally proportionate to their age; the oldest females first feel the accessions of desire; and the senior males are the most intrepid in driving off the junior pretenders. Those next in courage and desire set up their pretensions, till they are all accommodated in their turn. The youngest come last, as being the latest in their inclinations. But still there are several, both males and females, which remain unprovided for; either not happening to meet with each other, or at least not during the genial interval. Whether these mix with small birds of a different species, is a question which naturalists have not as yet been able fully to resolve. The larger birds are generally allowed to be chaste in their manners; but, among the smaller tribes, it requires very little trouble to form a species between two; as a goldfinch and a canary-bird, a linnet and a lark. They frequently breed together; and produce a race, not like mules among quadrupeds, incapable of breeding again; for this motley mixture is as prolific

as the parents. What is so easily effected by art, very probably often happens in a state of nature; and accordingly, when a male cannot find a mate of his own species, he flies to one of another, that, like himself, has been neglected in pairing. According to some naturalists, this is the source of that great variety of small birds we usually see: some uncommon mixture might first have formed a new species; and this might have been continued by birds of this species choosing to breed together. For the authenticity of this opinion we will not vouch; but of this we are certain, that many of the Sparrow tribe bear a strong resemblance to each other in their figures, manners, and appetites.

The following are the most curious species, which retain the appropriate appellation of Sparrows.

**SPARROW, COMMON, OR HOUSE;** the *Fringilla Domestica* of Linnæus. The male has a black bill; the crown of the head is grey; under each eye there is a black spot; and above the angle of each appears a broad bright bay mark, surrounding the hind-part of the head. The cheeks are white; the chin and under-side of the neck are black; the belly is of a dirty white hue; and the lesser coverts of the wings are a bright bay, the two last rows being black tipped with white. The great coverts are black, outwardly edged with red; the quill-feathers are of the same colour; the back is spotted with red and black; and the tail is dusky.

With regard to the female, the lower mandible of the bill is white; beyond each eye there is a line of white; the head, and the whole upper part, are brown, except a few black spots on the back; the black and white marks on the wings are obscure; and the lower side of the body is of a dirty white hue.

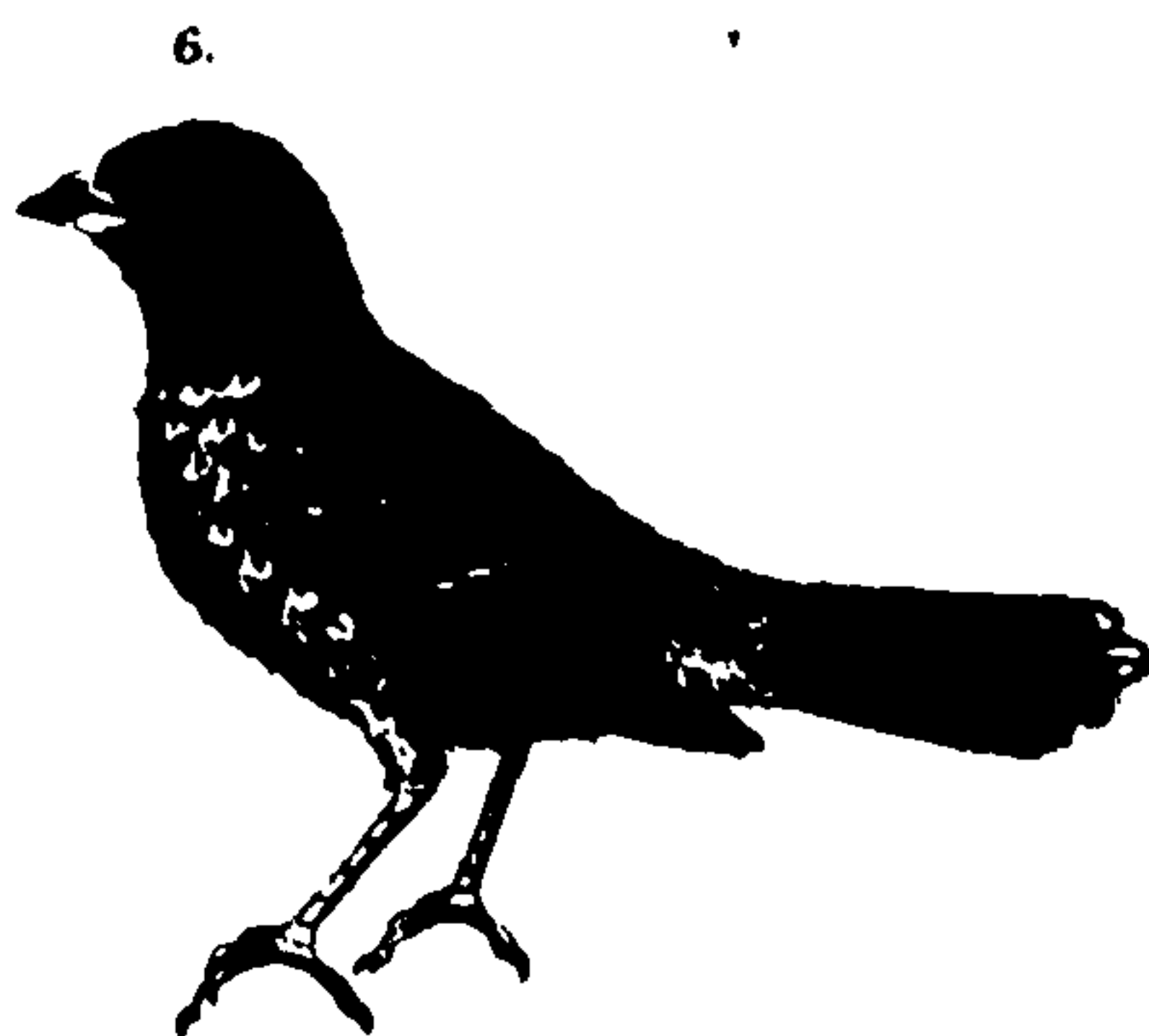
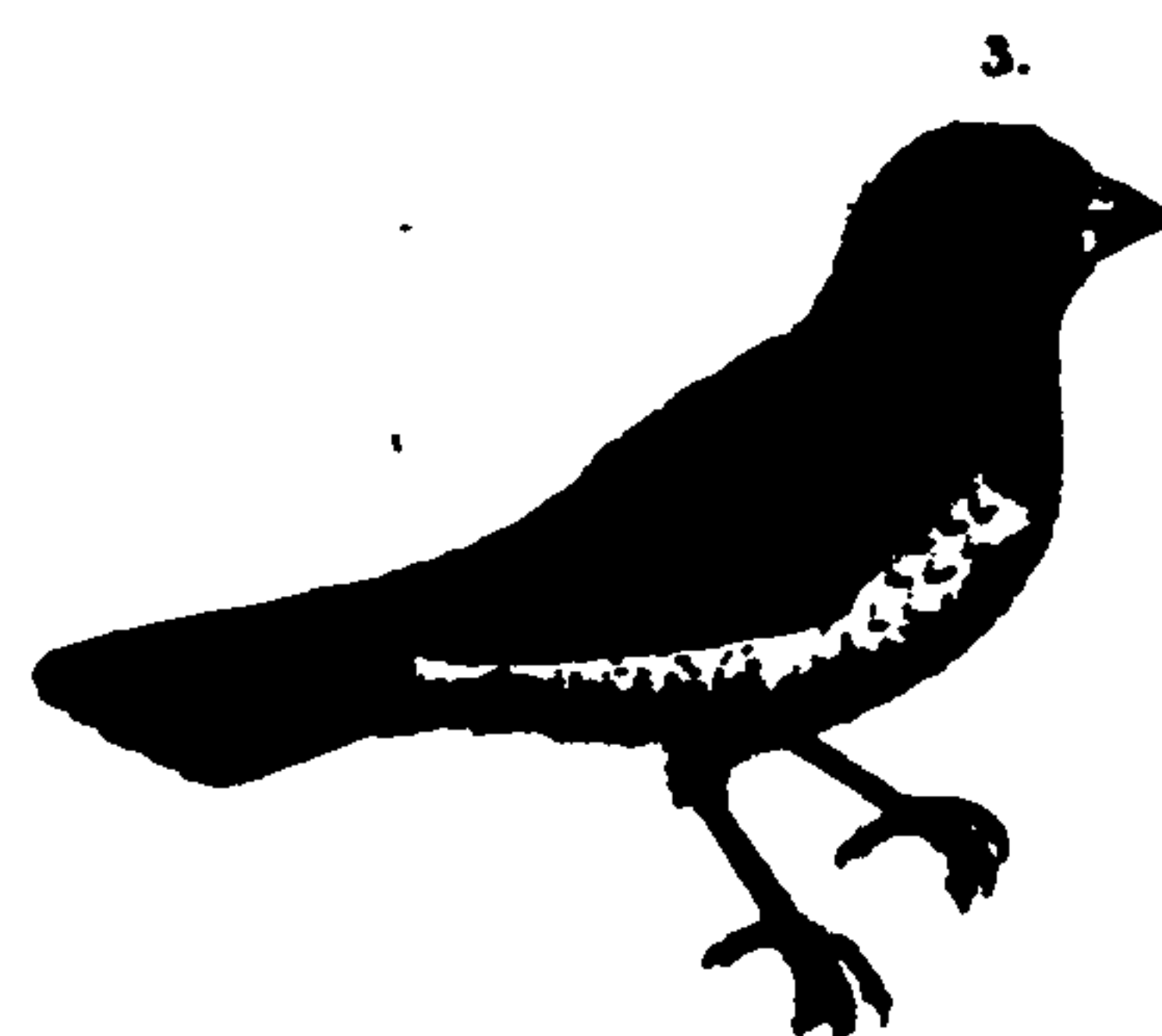
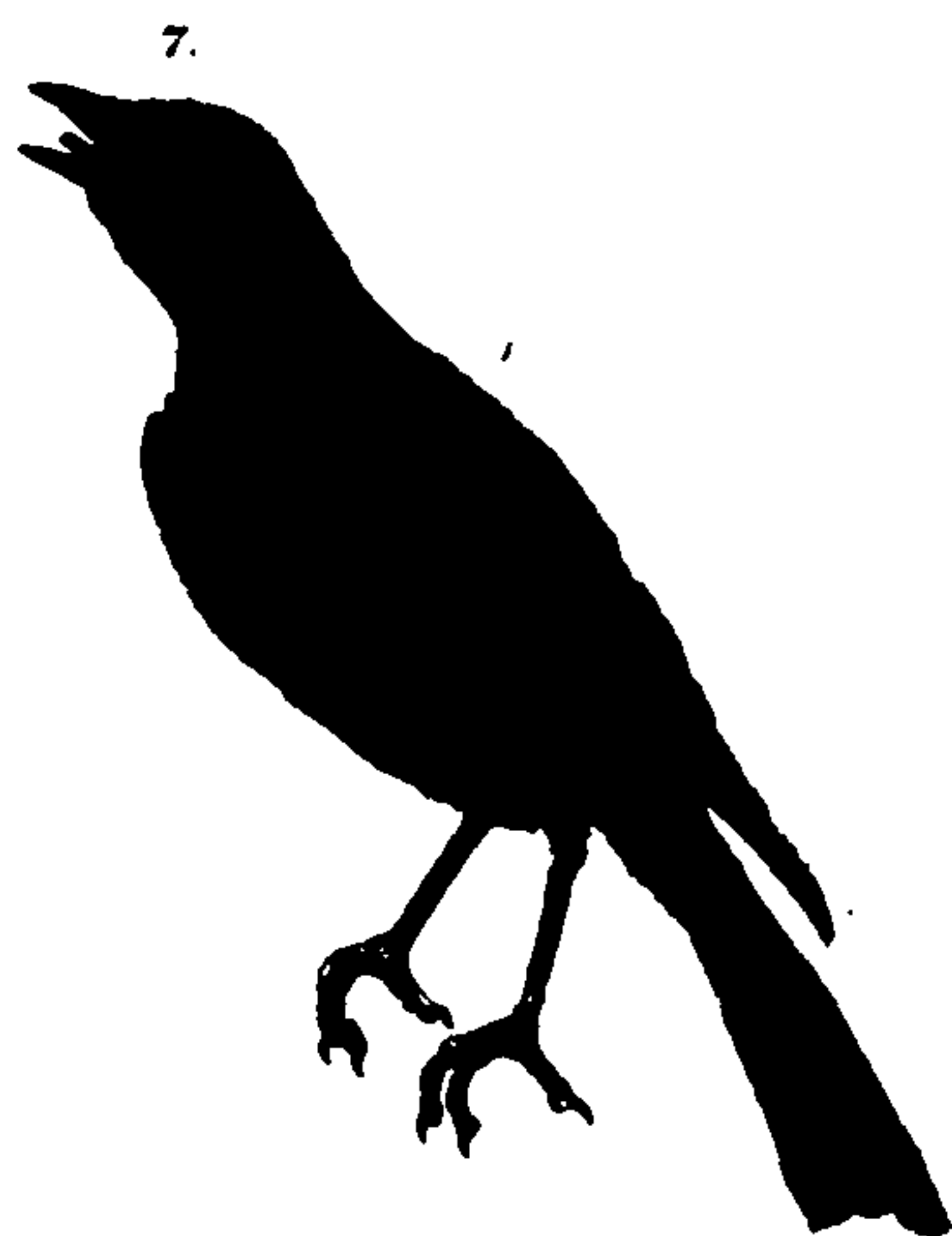
Sparrows are salacious to a proverb. They breed early in the spring; make their nests under the eaves of houses; in holes of walls; and frequently in the nests of martins, after expelling the owners. Linnæus, on the authority of Albertus Magnus, informs us, that this insult does not pass unrevenge: the injured martin assembles it's companions, who unite in plastering up the entrance with dirt; then fly away, twittering in triumph, and leave the invader to a miserable fate. Sparrows also build in plumb and apple-trees, in the old nests of rooks, and in the forks of boughs beneath them.

**SPARROW, TREE;** the *Fringilla Montana* of Linnæus. This bird is smaller than the common Sparrow: the bill is thick and black; the crown of the head, the hind part of the neck, and the lesser coverts of the wings, are of a bright bay colour, the two first being plain, and the last spotted with black. The chin is black; the cheeks and sides of the head are white, marked with a large black spot beneath each ear; and the breast and belly are of a dirty white hue. Just above the greater coverts there is a row of black feathers edged with white; the greater quills are black, bordered with rust-colour; the quill-feathers are dusky, edged with pale red; the lower part of the back is of an olive brown hue; the tail is brown, and the legs are straw-coloured.

These birds are common in Lincolnshire, among trees; where they collect in large flocks, like the common kind.

**SPARROW, HEDGE;** the *Motacilla Modularis* of





1 CHINESE SPARROW 2 COMMON SPARROW 3 INDIAN WHITE-BREASTED SPARROW 4 INDIAN YELLOW-TAILED SPARROW  
5 LITTLE SPARROW 6 SPARROW OF PARADISE 7 SOLITARY SPARROW 8 TREE SPARROW



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of Linnæus. This bird is about the size of the red-breast, or tit-lark; the beak is longish, slender, and black; the head is of a deep brown hue mixed with ash colour; and the cheeks are marked with oblong spots of dirty white. The back and coverts of the wings are dusky, edged with reddish brown; the quill-feathers and the tail are also dusky; the rump is brown, tinged with green; the throat and breast are of a dull ash-colour; the belly is of a dirty white; the sides, thighs, and vent-feathers, are of a pale tawny brown; and the legs are of a dull flesh-colour.

This bird frequents low hedges, particularly those of gardens; making it's nest in some small bush, where it lays four or five eggs of a fine pale blue colour; and, during the season of incubation, it has a remarkable flirt with it's wings. The male utters a short, but very sweet plaintive note, which it begins about the commencement of the first frosty mornings; and continues till the melody of the returning spring drowns it's voice.

The bird which Linnæus describes under the appellation of *Motacilla curruca*, and supposes to be synonymous with our Hedge-Sparrow, differs from this both in colour and plumage.

**SPARROW, REED;** the *Emberiza Schoeniculus* of Linnæus. This Sparrow generally frequents reedy and marshy places; and is sometimes denominated junco. It's nest is curiously contrived, being fastened to four reeds, and suspended by them, like a hammock, about three feet above the water. It lays four or five eggs of a blueish white colour, irregularly marked with purplish veins.

This bird is much admired for it's song; and, like the nightingale, pipes in the night-time. The head, chin, and throat of the male, are black; the tongue is livid; and at each angle of the mouth a white ring commences, which encircles the head. At the approach of winter, the head changes to hoary; but, on the return of spring, resumes it's jetty colour. The whole under-side of the body is white; the back, coverts of the wings, and scapulars, are black, deeply bordered with red; the two middle feathers of the tail are of the same colour; the three succeeding ones are black; the exterior web, and part of the exterior of the extreme feather, are white. The head of the female is rust-coloured, spotted with black: she wants the white ring round the neck; but, in other respects, almost entirely resembles the male.

**SPARROW, LESSER REED, WILLOW-LARK, OR SEDGE BIRD;** the *Motacilla Salicaria* of Linnæus. This bird is of a slender, elegant figure: the head is brown, marked with dusky streaks; over each eye there is a line of pure white; and above that another of black. The cheeks are brown; the throat, breast, and belly, are white, the two last tinged with yellow; the hind part of the neck and the back are of a reddish brown hue; the back is spotted with black; the coverts of the tail are tawny, those of the wings dusky, edged with pale brown; the quill-feathers are dusky; the tail is brown, and cuneiform, making a circle when spread; and the legs are dusky.

This bird frequents low wet grounds; sits on the top of some spray, with it's wings dishevelled; while it emits a loud, querulous, and harsh song, consisting of no more than two notes.

**SPARROW, WATER;** the *Passer Aquaticus*. A bird described by Nieremberg; which, according to that author, sings the whole day without inter-

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mission, but with no very pleasing note: it is, however, much valued for the delicacy of it's flesh. It lives amongst sedges and bushes. In size and shape, it resembles the swallow; but it's colours are very different. The bill is black; the legs are yellow; the breast and belly are white; and the back is of a brownish yellow colour, variegated with black and white spots.

**SPARROW OF PARADISE;** the *Loxia Erythrocephala* of Linnæus. This bird has a thick and strong bill, like the rest of the loxia kind; it's colour is whitish; and the nostrils are hid in the plumage of the forehead. The eyes are of a dark colour; and the whole head is covered with scarlet feathers. The upper side of the neck, back, and rump, and the upper sides of the wings and tail, are of a darkish blue ash-colour. The quills, and the first and second rows of the coverts of the wings, the tail-feathers, and it's coverts, are all tipped with white, or light ash-colour. The breast and belly are variegated with black and white, not unlike the scales of a fish, but more broken and confused. The sides of the belly are interspersed with a tincture of reddish brown; and the thighs, lower belly, and coverts under the tail, are white; but the legs, feet, and claws, are flesh-coloured.

This curious bird is a native of Angola, on the coast of Africa.

**SPARROW, HEDGE, AMERICAN.** This bird, which inhabits Jamaica, is about five inches in length. It has a pretty strong bill, sharp-pointed, incurvated, and black. The head and neck are ash-coloured, a little inclining to green; and the back, wings, and tail, are brown. The breast, belly, and thighs, are white, clouded with dusky; and the legs are brown.

**SPARROW, SOLITARY;** the *Turdus Cyanus* of Linnæus. This beautiful bird is a native of the southern parts of Europe. In size, shape, and proportion, it resembles the blackbird: the bill is straight, the upper mandible bending a little downwards at the point, and of a black colour both above and beneath; the eyes are of a dark hazel colour; and the eye-lids are yellowish. The plumage of the whole bird, except the quills and tail, are of a full blue colour, darker on the back, and lighter on the breast; the feathers on the breast and belly being transversely barred with a lighter colour. The quills and tail-feathers are of a dusky brown hue, except that there is a small portion of blue on their exterior webs. The legs, feet, and claws, are black.

**SPARROW, CHINESE, COCK;** the *Loxia Malacca* of Linnæus. This bird is somewhat less than the common House-Sparrow; and has a short, thick, ash-coloured neck. The head, neck, breast, and belly of the cock, are quite black; but the rest of the body, wings, and tail, are of a rusty brown colour. The upper parts of the body of the hen are more brown and dusky; the lower part of the breast inclines to a hare colour, with beautiful regular black and white spots on the sides of the belly and under the wings; and the legs and feet are of the same bright colour, inclining to yellow.

**SPARROW, INDIAN, YELLOW-HEADED;** the *Loxia Bengalensis*. The bill is of a light or whitish colour, and of a thick and strong make; the top of the head is of a yellow or golden colour; the neck, back, wings, and tail, are of a dark brown or dusky colour, the plumage being bordered



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bordered with a lightish brown. From the sides of the neck, across the breast, extends a bar of the same brownish colour as on its upper side; the sides of the head beneath the eyes and throat are white; as far as the collar, of dusky feathers; and under the collar, the belly, and thighs, are again of a yellowish white colour; the sides of the belly are marked with longish spots of a faint dusky colour; and the legs and feet are flesh-coloured. This bird is a native of the province of Bengal.

**SPARROW, INDIAN, WHITE-BREADED;** the *Loxia Malacca* of Linnæus. The bill of this bird is of a blueish ash-colour; the eyes are dark; the whole head and neck, thighs, middle of the belly, and covert-feathers beneath the tail, are of a deep black colour; the back, rump, tail, and wings on their upper sides, are of a dark cinnamon colour; the lower part of the breast, the sides under the wings, and the inner covert-feathers of the wings, are white; and the legs and feet are ash-coloured.

This bird appears to be a variety of the Chinese Sparrow; and accordingly Linnæus considers them as synonymous.

**SPARROW, LITTLE.** This bird, which is a native of America, has a dusky brown or black bill; the top of the head, the upper side of the neck, the back, rump, and upper sides of the wings and tail, are of a dark brown colour; the edges of the quills, and the exterior feathers of the tail, are of a bright reddish brown hue; and the tail consists of twelve feathers. Above the eye passes a whitish line; the under side, from the throat to the under coverts of the tail inclusive, is covered with whitish feathers, shaded with light brown, and marked with oblong dusky spots, tending downwards from the bill to the middle of the belly; and the legs and feet are of a brownish ash-colour.

**SPARROW-HAWK;** the *Falco Nifus* of Linnæus. The difference of size between the male and female Sparrow-Hawk is very disproportionate; the former usually weighing about five ounces, the latter nine. The length of the male is generally about twelve inches, and the expansion of the wings twenty-three: the length of the female is fifteen inches, and the expansion of the wings twenty-six.

Like other birds of the Hawk kind, these vary greatly in their colours: in some, the back, head, coverts of the wings, and tail, are of a deep blueish grey; in others, of a deep brown, edged with a rusty red. The quill-feathers are dusky, barred with black on their exterior webs, and spotted with white on the lower part of their interior webs. On the tail, which is of a deep ash-colour, there are fine broad black bars, and the tip is white. The breast and belly are of a cream-colour, adorned with transverse waved bars, of a deep brown in some, and orange-colour in others; and the skin at the base of the bill, the irides, and the legs, are yellow.

The colours of the female are different from those of the male: the head is of a deep brown; the back and coverts of the wings are brownish mixed with dove-colour; the tail is of a brighter dove-colour; the waved lines on the breast are more numerous than those on the breast of the male; and the breast contains a greater portion of white.

This is the most pernicious Hawk which inhabits Britain, making great depredations among pigeons and partridges. It builds in high rocks, large ruinous buildings, and hollow trees; and

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lays four eggs, of a white colour, encircled with red specks near the larger end.

Willughby places the Sparrow-Hawk among the short-winged species, or such whose wings do not reach the end of the tail when closed.

The Sparrow-Hawk was formerly held in great veneration among the ancient Egyptians, because it represented their god Osiris; and if any person killed one of them, whether by accident or design, death was the certain consequence of the supposed heinous offence. Among the Greeks, it was consecrated to Apollo; and likewise served as a prognosticator.

**SPARUS.** In the Linnæan system, a genus of fishes of the general order of thoracici; the characters of which are these: the opercula of the gills are scaly; the mouth is furnished with strong cutting-teeth; the grinders are obtuse, close set, and covered with lips; the branchiostegic membrane consists of five rays; the body is compressed; the lateral line is curved behind; and the pectoral fins are rounded. There are twenty-six species of this genus; among which are the gilt-head, the pagrus, the melanurus, the smaris, and the cantharus.

The term Sparus is of Greek derivation, from *Spairein*, to Palpitate or Tremble; and was applied to this fish from its remarkable quality of trembling or palpitating all over the body as soon as taken out of the water.

**SPATAGOIDES.** A name by which some naturalists express a genus of the *echini marini*; the characters of which are: they have the aperture of the anus on one side of the upper superficies; the back is remarkably sulcated, which makes them of a cordated form; but there are no furrows on the vertex, only four or five smooth rays, composed of a number of slight transverse striæ.

**SPATANGI.** A genus of *echini marini*, including all those which are cordiform, and have the aperture for the anus on one of the sides of the upper superficies. They have all a remarkable furrow on the back; their base is nearly flat; and they have several furrows on the vertex. By these characters they are distinguished from the brissi, with which they have in common the rudiments of two lips to their mouths, and are destitute of teeth which belong to the other genera.

**SPAX.** An appellation by which some authors express the common *tænia*; a small fish of the anguilliform kind, frequent on the shores of Italy.

**SPECTRE.** A name by which French conchologists express a species of *voluta*; on which are several reddish broad bands, composed of loose and irregular figures, on a fine white ground.

**SPECULATION SHELL.** An appellation sometimes given to the Guinea-shell, a very beautiful species of the *voluta*.

**SPERVERIUS.** A name by which Bellonius, and some other ornithologists, have expressed the sparrow-hawk; more commonly denominated *nifus*, and *accipiter fringillarius*.

**SPHIFX.** A genus of the hymenoptera order of insects in the Linnæan system. Its distinguishing characters are; that the mouth is furnished with mandibles without a tongue; that the antennæ have ten joints; that the wings are plano-incumbent, and not folded; and that the sting is concealed. Linnæus enumerates thirty-eight species.

**SPHINX.** In the Linnæan system of nature, a genus



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a genus of the lepidoptera order of insects. Its characters are: the antennæ are subprismatic, or thicker in the middle, and attenuated towards each end; the wings decline towards the sides; and they are apparently heavier and slower in their flight in the morning and evening. Linnæus enumerates forty-seven species.

**SPHINX** is also a term by which Reaumur expresses a very singular species of caterpillar, with a hollow horn or tube on the hinder part of the body.

**SPHONDYLLUS**. An appellation given by Pliny to a peculiar species of the syngnathus, or acus Aristotelis. Artedi calls it the syngnathus corpore medio hexagono cauda pinnata; and Belonius and Gesner, typhle marina.

**SPHYRÆNA**. A name sometimes given to the sudis, or lucius marinus, the sea-pike.

**SPHYRÆNA ALTERA**. An appellation by which Appian, and some others of the ancient Greek writers, express the esox, or common pike.

**SPIDER**. A genus of the aptera order of insects; the characters of which are: they have eight feet and eight eyes; the mouth is furnished with two claws; the two palpi are articulated; and the anus is provided with papillæ, or nipples, for weaving. Linnæus enumerates forty-eight species.

The Spider being formed for a life of rapacity, and incapable of living on any other than insect food, all its habits are calculated to deceive and surprise: it spreads toils to entangle its prey; it is endued with patience to expect its approach; and possesses arms and strength sufficient to destroy it when fallen into the snare.

In this country, where all the insect tribes are kept under by human assiduity, Spiders are but small and harmless. We are acquainted with few except the House-Spider, which weaves its web in neglected rooms; the Garden-Spider, that spreads its toils from tree to tree, and rests in the centre; the Wandering-Spider, that has no fixed abode; and the Field-Spider, that is sometimes seen mounting, web and all, into the clouds. These are the chief of our native Spiders; which, though reputed venomous, have never been fairly proved to possess any noxious qualities. But in Africa and America they compose a much more formidable tribe: in those regions, where all the insect species attain their utmost growth, where the butterfly is seen to expand a wing as broad as our sparrow, and the ant to build a habitation as tall as a man; it is not at all surprising that the Spider should exhibit a proportionable magnitude. In fact, the bottom of the Martinico Spider's body is as large as a hen's egg, and entirely covered with hair; its web is strong; and its bite is dangerous.

Every Spider has two divisions in its body. The fore-part, containing the head and breast, is separated from the hinder part or belly by a very slender thread, through which, however, there is a communication from one part to the other. The fore-part is covered with a hard shell, as well as the legs, which adhere to the breast. The hinder-part is clothed with a supple skin, entirely beset with hair. There are several brilliant and acute eyes arranged round the head, sometimes eight in number, and sometimes six. Like all other insects, the eyes of Spiders are immovable, and they are destitute of lids; but this organ is fortified with a transparent horny substance,

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which at once secures and assists their vision. As the animal procures its subsistence by the most vigilant attention, so large a number of eyes appears necessary, in order to give it the earliest intimation of the approach of its prey. On the fore-part of the head there are two pincers, rough, with strong points, toothed like a saw, and terminating in claws resembling those of the feline tribe. A little below the point of the claw there is a small hole, through which the animal emits a poison, which, though innocent with regard to mankind, is sufficiently deleterious to destroy its prey. This is the most powerful weapon which these insects possess. These pincers they can extend or open as occasion requires; but, when undisturbed, they suffer them to lie one on the other, never opening them but when there is a necessity for their exertion.

All Spiders have eight legs, jointed like those of lobsters: and similar also in another respect; for, if a leg be torn away, or a joint cut off, a new one will quickly succeed, and the animal will find itself fitted for combat as before. At the end of each leg there are three crooked moveable claws; namely, a small one, placed higher up like a cock's spur, by the assistance of which it adheres to the threads of its web. There are two others larger, meeting together like a lobster's claw, by which they are enabled to catch hold of the smallest depressions, walking up or down the very polished substances, where they can discover inequalities imperceptible to our grosser sight: but when they find it necessary to procure footing on such bodies as are perfectly smooth, they squeeze a little sponge, growing near the extremity of their claws, and thus diffusing a glutinous substance, adhere to the surface till they make a second step. Besides the eight members commonly denominated legs, these animals have two others, which may properly be called arms, as they do not assist motion, but are only serviceable in holding and mastering their prey.

But, though thus formidably equipped, the Spider would seldom prove successful in the capture, were it not equally furnished with other instruments to assist its depredations. As it subsists wholly on flies, and is destitute of wings for the pursuit, it would seem they must constantly escape such an impotent adversary; but the Spider is a most experienced hunter, and spreads its snares to catch those animals it is unable to overtake. The Spider's web is generally suspended in those places where flies are most apt to seek for shelter; in the corners of rooms, round the edges of windows, and in the open air among the branches of trees: there the little animal remains for days, nay weeks together, in patient expectation, seldom changing its situation though ever so unsuccessful.

For the purpose of constructing its web, Nature has supplied the Spider with a large quantity of glutinous matter within its body, and with five dugs or teats for spinning it into thread. This substance is contained in a little bag; and, at first sight, resembles soft glue; but, when more accurately examined, is found twisted into many coils of an agate colour; and, on breaking it, the contents may be easily extended into threads, from the tenacity of the substance, not from those threads being already formed.

The machine by which wire is artificially spun will furnish us with some idea of the manner in



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which this creature forms the threads of its little net; the orifices of the five teats, through which the thread is drawn, contracting or dilating at pleasure. The threads which we see, and which appear so fine, are, notwithstanding, composed of five joined together, and these are repeatedly doubled when the web is in formation.

When a house or common Spider is about to form a web, it first selects some commodious spot where there is an appearance of plenty and security. The animal then distils a small drop of its glutinous liquor, which is very tenacious; and then creeping up the wall, and joining its thread as it proceeds, darts itself in a very surprising manner to the opposite station where the other end of the web is to be fastened. The first thread thus spun, drawn tight, and fixed at each end, the Spider runs on it, backward and forward, still assiduously employed in doubling and strengthening it, as on its force depends the strength and stability of the whole. The scaffolding being compleated, the Spider draws a number of threads parallel to the first, in the same manner; and then crosses them with others; the clammy substance of which they are formed serving to bind them together when newly spun.

After this operation, the insect doubles and trebles the thread that borders its web, by opening all its teats at once; and so secures the edges as to prevent the wind from displacing the work. The edges being thus fortified, the retreat is next to be attended to; and this is formed like a funnel at the bottom of the web, where the little creature lies concealed. To this there are two passages or outlets, one above, and the other below, very artfully contrived, to allow the animal an opportunity of making excursions at proper seasons, of examining every corner, and cleaning those parts which appear soiled or encumbered. Still attentive to its web, the Spider from time to time removes the dirt that gathers round it, which might otherwise clog and incommode it: to effect this, it gives the whole a shake with its paws; still, however, proportioning the shock to the substance and strength of the fabric. It often happens also, that from the main web there are several threads extended at some distance on each side: these may be considered as the outworks of the fortification; which, whenever touched from without, the Spider prepares for attack or self-defence. If the insect impinging happens to be a fly, it springs forward with great agility; but if, on the contrary, some enemy stronger than itself, it then keeps within its fortress, and never ventures out till the danger is past.

Another advantage which the Spider reaps from this contrivance of a cell behind the web, consists in its serving as a retreat where the creature can feast on its game with safety, and conceal the fragments of those carcases which it has picked, without exposing to public view the least trace of barbarity that might put other prey on its guard. However, it is not very uncommon for a blast of wind, or some other accidental violence, to destroy in one minute the labours of a Spider's life. In this calamity, the hapless insect is obliged to remain a patient spectator of the universal ruin; and, when the danger is over, to set about repairing the devastation. For this purpose it is provided with a large store of that glutinous substance of which the web is composed; and with this it either makes a new web, or re-

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pairs the old one. In general, however, the Spider is more solicitous to mend than make; as it is originally furnished with only a certain quantity of glutinous matter, which, when exhausted, nothing can renew; and it is then abandoned to all the chances of irretrievable necessity. An old Spider is thus frequently reduced to the greatest extremity; its web is destroyed, and itself wholly unprovided with materials for constructing a new one. But as these animals are habituated to a life of shift, it hunts about for the web of another creature of its own species, younger and feebler than itself, with which it hazards a battle: the invader generally comes off successful; the young one is driven out to make a new web for itself; and the old one remains in quiet possession. If, however, the Spider is unable to dispossess any other of its web, it then endeavours to subsist on accidental depredations, but in a very short time infallibly dies through hunger.

The Garden Spider seems to work in a different manner. It spins a large quantity of thread, which floating in the air in various directions, happens, from its glutinous quality, at last to adhere to some object near it, a lofty plant, or the branch of a tree. The Spider is anxious to have one end of the line fixed, that it may be enabled to secure and tighten the other: it accordingly draws the line when thus fixed; and then, by passing and repassing on it, strengthens the thread in such a manner as to answer all its intentions. The first cord being thus stretched, the Spider walks along a part of it, and there fastens another; and dropping from thence, affixes the thread to some solid body below; then climbs up again, and begins a third, which it fastens by a similar contrivance. When three threads are thus fixed, it forms a figure somewhat resembling a square; and in this the animal is generally found to reside. It often happens, however, when the young Spider begins spinning, that its web becomes too buoyant; and not only the thread floats in the air, but the spinster also.

The Spider's web being compleated, and fixed in a proper place, its next care is to seize and secure whatever insects happen to be caught in the toil. With this view it sometimes remains on the watch for weeks, and even months, without ever catching a single fly; for the Spider, like most other insects, is surprisingly patient of hunger. It sometimes happens that too strong a fly strikes against the web; and thus, instead of being caught, tears it to pieces. But in general the butterfly, or the hornet, when they touch the web, fly off again; and the Spider seems no ways disposed to interrupt their retreat. The large blue-bottle fly, the ichneumon fly, and the common meat-fly, seem to be its favourite game: when one of these strike into the toils, the Spider is instantly seen at the mouth of his hole, carefully observing whether the fly be compleatly immeshed; and if so, he advances quietly forward, seizes his prey, and presently kills it by infusing a venomous fluid into the wound he inflicts. But if the fly be not wholly entangled, the Spider waits patiently, without appearing in sight, till it is tired out with ineffectual attempts to regain its liberty; for if the ravager should appear in all his terrors while the fly is but half involved, one desperate effort would probably enable it to get free. If the Spider is stimulated by hunger, he drags the fly immediately into his cell, and devours it; but if there has been plenty



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plenty of game, and the tyrant be no way pressed with the calls of appetite, he gives the fly two or three turns in his web, so as compleatly to entangle it; and there leaves it till he is hungry.

Some philosophers have advanced an opinion, that the Spider in itself is both male and female; but Lister has been able to distinguish the sexes, and to perceive that the males are considerably less than the females. Nor is this the chief peculiarity; for, different from all other animals, except the fish called the ray, it has the instruments of generation in the fore-arms, which have been already mentioned. When these insects copulate, they for some time teaze each other with their legs and arms; then appear the instruments of generation in the male, as if bursting out from the extremities of it's fore-feet; and these are inserted into the receptacle beneath the body of the female.

The female generally lays from nine hundred to a thousand eggs in a season; which are of a blueish colour, speckled with black, and separated from each other by a glutinous substance, not much unlike that which surrounds the spawn of frogs. These eggs are small or large in proportion to the size of the animal that produces them. In some, they are as large as a grain of mustard-seed; but, in others, they are too minute to be distinctly visible. The female never begins to lay till she is two years old at least; and her first brood is never so numerous as when she arrives at full maturity.

When the number of eggs which the Spider has produced have continued to dry for an hour or two after exclusion, the little animal then prepares a bag for their reception, where they are to be hatched till they leave the shell. For this purpose, she spins a web four or five times stronger than that intended for the catching of flies; and, besides, lines it internally with down plucked from her own breast. This bag, when compleated, is as thick as paper, smooth on the inside, but somewhat rough without: in this the eggs are deposited; and it is almost incredible what concern and industry the creature shews in the preservation of it: it is stuck, by means of her glutinous fluid, to the extremity of her body; so that, when thus loaded, she appears as if double. If the bag should happen by any accident to be separated from her, all her assiduity is employed to stick it again in it's former situation; and this precious treasure she seldom abandons but with her life.

When the young are excluded from their shells within the bag, they remain for some time in their confinement; till the female, instinctively knowing their maturity, bites open their prison, and sets them at liberty. But her parental care does not terminate with their exclusion: she receives them on her back from time to time; till having acquired sufficient strength to provide for themselves, they leave her to return no more, and each commences a separate manufactory of it's own. The young ones begin to spin when they are scarcely large enough to be discerned; and discover their propensity to a life of plunder before Nature has conferred on them strength for the conquest. Indeed, no other insects possess such various powers of assault and defence; for they are capable of destroying animals ten times as large as themselves. Even after a severe defeat, they quickly recover of their wounds; and as for

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their legs, they consider their loss but a very trifling misfortune, as they speedily arrive at their former magnitude.

There are scarcely any insects to which Spiders are not inimical; and they are even extremely hostile towards each other. Reaumur, who delighted in making experiments on insects, tried to turn the labours of Spiders to human advantage, and actually had a pair of gloves made from their webs. To procure this curious manufacture, he collected a large number of these animals together; and took care to have them constantly supplied with flies; and also the ends of young feathers, fresh picked from chickens and pigeons, which being replete with blood, are very agreeable food to Spiders. But, notwithstanding all his solicitude, he was soon convinced that it was impracticable to rear them, since they were of such a malignant nature, that they could never be brought to live in society: for, instead of subsisting on the food with which he plentifully supplied them, they soon began to devour one another. Indeed, were it possible to reconcile them to each other, too much attendance and expence would be requisite to breed a sufficient number to answer any beneficial purposes. Their thread is four, if not five times finer than that of the silk-worm; so that, on the most moderate calculation, there must be sixty thousand Spiders to spin one pound of silk. That which Reaumur used, was only the web wherein they deposited their eggs, which is five times stronger than their ordinary manufacture. See SILK-SPIDER.

There are various species of Spiders, differing from each other considerably in size, but little in nature, habits, or conformation. The Bermudas and Martinico Spiders are extremely large. In the East Indies, and at the Cape of Good Hope, there are several species; some remarkable for their size, and others for their venom. The tarantula, an insect common in Apulia, of which so many fables have been propagated, is of the Spider kind. See TARANTULA.

SPIDER, WATER. This insect resembles the common Spider in it's appearance, except that it's hinder-part is rather conical than globular. It differs also in being able to live as well on the land as in the water; and in being capable of spinning as well in the one element as the other.

The appearance of these insects under water is very remarkable; for though they inhabit the bottom, they are defended from the element in which they reside by a bubble of air which surrounds them on every side: this bubble appears at the bottom like quicksilver; and within it they perform their several functions of eating, spinning, and sleeping, without it's ever bursting, or in the least disturbing their operations. Sometimes this bubble is observed to be divided into three distinct apartments: and in the spring the male enters one of them in order to impregnate the female; while the bubble in which he was contained unites with the other like two drops of water in the act of closing with each other.

It is most probable that these Spiders subsist on such small insects as are peculiar to both the land and the water.

SPIDER, RED. A genus of insects of the aptera order, in the Linnæan system. It's characters are: it has two eyes placed on the sides of the head, remote from each other; it's mouth, or proboscis, is formed by a small pointed rostrum inclosed



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closed in a sheath; it's antennæ are shorter than the proboscis; it's head is uniform in size, and united to the thorax; and it's feet, which are eight in number, are formed for running. There are many species of this genus: some live on other animals, others in the water, and some on trees and plants. See *ACARUS*.

These insects, which are frequently very injurious to plants, particularly in hot-houses, may be effectually destroyed by a mixture of soft green soap, turpentine, and flowers of sulphur, dissolved in a proportionable quantity of warm water, and sprinkled over the plants.

**SPIDER-SHELL.** An appellation whereby some naturalists express a species of the *murex*.

**SPIGOLA.** A name by which Paulus Jovius denominates that species of perch more generally called *lupus marinus*. It is a genuine perch; and is distinguished from the others by Artedi, under the name of the perch with thirteen rays in the second dorsal fin, and fourteen in the pinna ani.

**SPINACHIA.** An appellation by which some ichthyologists express the common stickle-back; the *Gasterosteus Spinachia* of Linnæus.

**SPINARELLA.** A name by which Bellonius, and some other writers, express the lesser stickle-back; which, in the Linnæan system, constitutes a distinct species of the *gasterosteus*.

**SPINOLETTA;** the *Alauda Spinoletta* of Linnæus. A small bird of the lark-kind. The head, neck, shoulders, and back, are of a greyish colour, with an admixture of green; the breast and belly are white; and the throat is spotted. The female differs from the male in having a yellow belly. The wing-feathers are of a dusky brown hue, with whitish or yellowish edges; the tail is moderately long; and part of the feathers are snow-white, the rest being brown or blackish.

The length of the Spinoletta's heel distinguishes it from all other birds except those of the lark-kind; and it differs from all other species of larks in the colour of it's beak and legs, which are black. It is common in Italy.

**SPINOSA.** An Italian appellation for the porcupine.

**SPINOSI PISCES.** A term by which ichthyologists denominate such fishes whose dorsal fins run out into thorns and prickles; of which kind is the perch.

**SPINUS.** A species of *sparus*, having a bifid tail, and the dorsal fin recumbent. It is a native of the Oriental seas.

**SPINUS;** the *Fringilla Spinus* of Linnæus. An appellation by which some ornithologists express the siskin, or aberdavine. This bird is common both in England and Germany; the former of which it visits at uncertain seasons. In Sussex it is called the barley-bird, because of it's arriving in that county about barley-feed time.

For a particular description of the Spinus, which is in some estimation on account of it's voice, see *ABERDAVINE*.

**SPIPOLA.** A small bird of the lark kind; of which, according to Aldrovandus, there are three species: Ray, however, suspects them to be only varieties of the spinoletta, or tordino of the Venetians.

Linnæus constitutes two distinct species of these, under the appellations of *alauda trivialis*, and *alauda pratensis*: the last of which is synonymous with our tit-lark. See *LARK*.

**SPIZA.** An appellation by which some of

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the ancients naturalists denominated the chaf-finch.

**SPONDYLUS.** The name by which Da Costa distinguishes the second family of bivalve shells, with unequal valves shut close. The principal character is the hinge, which in the upper shell consists of a triangular hollow and cartilage in the centre, on each side of which is a large deep cavity; and a very thick, large, and prominent tooth or joint, lies on each side of the cavity: the summit and beak of the under valve, which is also extremely thick and strong, extends from the hinge outwards into a broad triangular slope or flat. Some of the Spondyli are thickly and curiously set with long thorns or spikes, and hence are denominated thorny oysters: these, when perfect, are held in high estimation.

The species belonging to this family are not very numerous. Conchologists in general refer them to the oyster tribe.

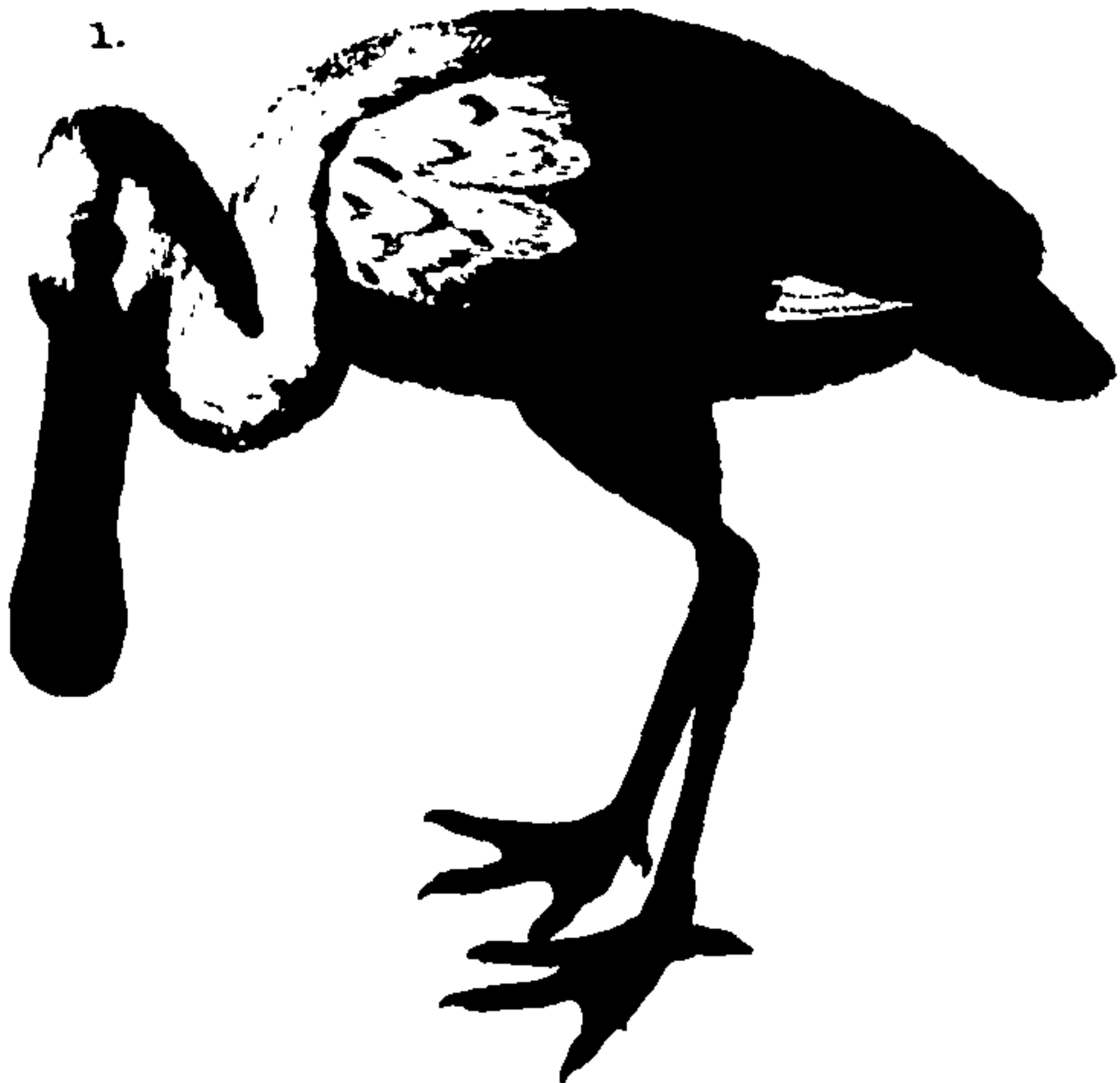
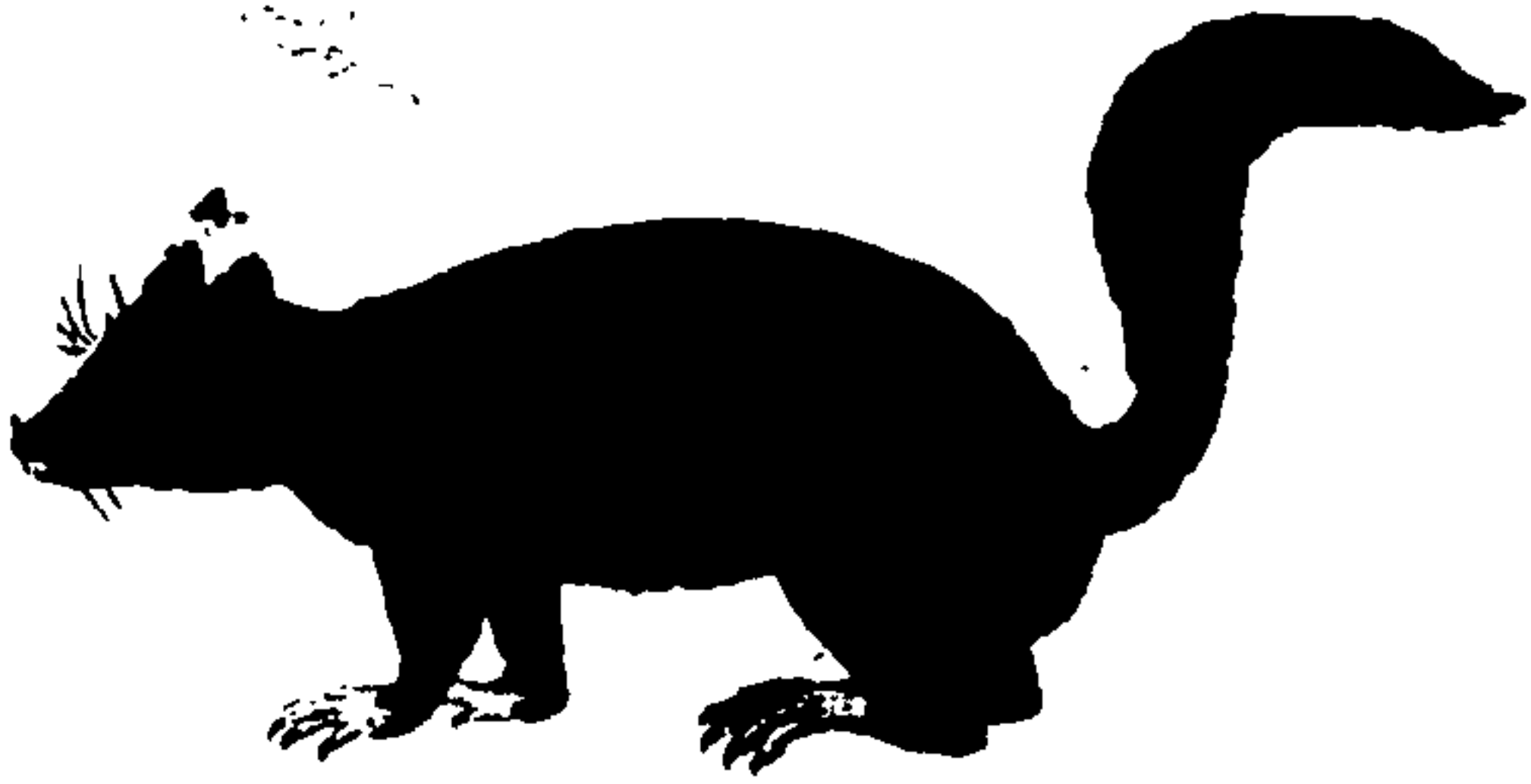
**SPOON-BILL;** the *Platalea Leucorodia* of Linnæus. This bird belongs to the order of *grallæ*; but it's bill is differently formed from that of any other bird whatever. It feeds among waters; it's toes are divided; and it seems to possess the natural instincts of the crane. The whole bill is of a fine shining black hue, except a bright orange-coloured spot just above the point of the upper mandible, which is a little bent downwards at it's extremity: at the angles of the bill, on each cheek, there is also a spot of the same colour; the upper surface of the bill is waved with dotted protuberances; a depressed line, extending from the nostrils, is continued round it near it's edge; and it's substance appears like whale-bone, being thin, light, and elastic. The tongue is short, and heart-shaped: when drawn back, it serves as a valve to close the entrance of the throat; but when pulled forward, it has the appearance of a triangular button. The ears are large, and placed an inch behind the angles of the mouth. The plumage of the whole body, wings, and tail, is white; and on the back-part of the head there is a beautiful crest of white feathers depending backward. The legs are black; as are also the thighs, which are naked half their length.—Such is the description of the European Spoon-Bill.

The American Spoon-Bill is either of a beautiful rose-colour, or a delightful crimson. Beauty of plumage indeed seems to be imparted to all the birds of that continent; and we here see the most splendid tints bestowed on a bird whose general conformation is the very reverse of elegance.

This species is disseminated over various parts of Europe, Asia, Africa, and America. It's very singular bill appears admirably adapted to the nature of it's food; being chiefly the frog, a nimble and cunning animal, which will frequently evade the stroke of a sharp beak darted down at it; and will sometimes elude the heron, even when seized. The Spoon-Bill, therefore, opening it's beak wide, places it near the ground, in those situations to which frogs usually resort; and, when any come in it's way, closes it's beak on them. For this purpose, the beak of the Spoon-Bill is not only sufficiently broad to hold it's prey in a large grasp at once, but is also toothed and notched all the way round; so that an escape is utterly impracticable: and with this the Spoon-Bill crushes the frog, and then swallows it.

The Spoon-Bill, or shoveller, as it is sometimes called, lays from three to five eggs, white, and powdered





1. SPOON BILL. 2. BARBARY SQUIRREL. 3. FLYING SQUIRREL. 4. HUDSONS BAY SQUIRREL.

5. VARIED SQUIRREL. 6. WHITE NOSED SQUIRREL.



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powdered with a few sanguine or pale spots. In Europe, it builds in high trees, in company with the heron, and in a nest formed of the same materials.

Sonnerat, in his Voyage to New Guinea, mentions a beautiful variety of the Spoon-Bill. A flock of these birds migrated into the marshes, near Yarmouth, in Norfolk, in April 1774.

**SPOT.** An appellation by which some authors express a particular species of pigeon, called by Moore *Columba Maculata*. It is a native of Holland; and receives its name from a spot on its head, just above its beak. The tail-feathers are always of the same colour with this spot; but the rest of the body is entirely white. The spot and tail are black in some, red in others, and not unfrequently yellow.

**SPOTTED FISH.** This fish, which ichthyologists have very imperfectly described, is a native of the Oriental seas. It is of a light colour, spotted with brown: the head is short and conical; and on its top there is a sharp fin which bends backwards. The tail is broad; on the back, near the tail, there is a very broad fin; and under the belly there is a small one, which corresponds with it.

**SPRAT;** the *Clupea Sprattus* of Linnæus. This is a species of the clupea, with the lower jaw longer than the upper, the belly very acute, and the dorsal fin consisting of thirteen rays. It has generally, though erroneously, been supposed a herring not arrived at full growth, its usual length being only four or five inches. Its body, however, is much deeper than that of a young herring of equal magnitude; and its back fin is placed more remote from its nose. But a still more remarkable distinction between this fish, the herring, and the pilchard, appears in the belly; that of the two first being quite smooth, while that of the last is very strongly serrated. There is also another distinctive character: the herring has fifty-six vertebræ; but this only forty-eight.

Independent of these discriminations, Sprats visit our coasts, and continue with us in large shoals; when the others, in general, have returned to the hyperborean deeps. They generally arrive in the river Thames about the beginning of November, and quit it in the month of March. At Gravesend and Yarmouth they are cured after the manner of red herrings. They are sometimes pickled, and in flavour little inferior to anchovies; but their bones will not dissolve so readily as those of anchovies.

**SPRINGER.** An appellation sometimes used for the grampus.

**SPURRE.** A name by which some ornithologists express the sea-swallow.

**SQUACCO.** A large, bold, and fierce bird, of the ardea kind. The head and neck are variegated with black, white, and yellow; and on the back part of the head there is a crest of the same hue. The back is of a ferruginous yellow colour; the breast and belly are white; as are also the wings and tail; and the legs and feet are green.

**SQUAIOTTA.** A bird of the ardea kind, with a yellow beak and green legs. The head is variegated with grey and black; and the back is very elegantly marked with white and red. It seems to have received its name from its note, which it repeats very often when flying.

**SQUALUS.** A distinct genus of fish of the

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order of nantes, and class of amphibia. The characters of this genus are; that it has five bronchial apertures on the sides of the neck, an oblong roundish body, and the mouth in the anterior part of the head.

Linnæus enumerates fifteen species: four of which have a prickly back, and no pinna ani; the *squalus acanthias*, or *galeus acanthias*; the *squalus centrina*, or *centrine*; the *squalus spinax*, with the nostrils at the extremity of the snout; and the *squalus squatina*, or *monk fish*. Eight species have no prickles on their backs, with sharp teeth, and a pinna ani; namely, the *squalus zygaena*, or *hammer-headed shark*; the *squalus tiburo*; the *squalus galeus*; the *canis galeus*, or *tope*; the *squalus canicula*, or *catulus major*; the *squalus stellaris*, with the ventral fins separate, and the dorsal fins near the tail; the *squalus catulus*, with a variegated back, and the ventral fins growing together, sometimes called the *morgray*; the *squalus maximus*, or *basking-shark*; and the *squalus carcharias*, or *white shark*. And three with granulated teeth, viz. the *squalus mustellus*, or *galeus lævis*, the *squalus glaucus*, or *blue shark*; and the *squalus pristis*, or *saw-fish*.

**SQUALUS** is also a name by which some of the ancient ichthyologists have expressed that species of the cyprinus distinguished by Artedi under the appellation of the oblong cyprinus with long scales, and the pinna ani containing eleven rays. This fish is commonly known in England by the appellation of the chub, or chevin.

**SQUAMIS.** A name used by some naturalists for the monk, or angel-fish; more commonly called *squatina*; and by the ancient Greek writers, *rhine*.

**SQUARTIA.** A species of fish caught in the Oriental seas, the skin of which is manufactured into shagreen.

**SQUATAROLA.** An appellation by which the Venetians express the grey plover, or *pluvialis cinerea*.

**SQUATINATORIA.** A name given by some ichthyologists to the *rhinobatos*; a sea-fish of a middle nature between the monk-fish, the angel-fish, and the ray.

**SQUATINA.** An appellation sometimes given to a species of the *squalus*, the angel, or monk-fish.

**SQUATUS.** An ancient Roman name for the rhine of the Greeks.

**SQUILACHI.** An appellation given by the modern Greeks to the jackall, or *canis aureus*.

**SQUILLA, OR SQUILL.** A large genus of animals comprehending the shrimp, or *Squilla*, properly so called, the cray-fish, the crab, and the lobster; all which, according to Hill, constitute only one genus of insects, of the *podaria* kind. The characteristics of this genus are; that they have ten legs, the foremost pair cheliform, and made for pinching; that they have only two eyes; and that the tail is foliated.

The *Squillæ*, agreeable to the foregoing authority, may be conveniently arranged under three subdivisions; namely, the smaller long-tailed *Squillæ*, commonly called shrimps; the larger long-tailed *Squillæ*, or the lobster and cray-fish kind; and the short-tailed kind, called also *cancer*, or crabs. See SHRIMP, LOBSTER, and CRAB.

The following species belong to those properly denominated shrimps: the long-tailed *Squilla*, with



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with the snout serrated above, and tridentated below; or the common shrimp; the long-tailed Squilla with a smooth snout, called the smooth-nosed shrimp; the long-tailed Squilla, with a soft tail, and the right claw largest, commonly called the hermit; the larger long-snouted Sea-Squilla; the smaller narrow-snouted Sea-Squilla; and the fresh-water small Squilla.

Of the second order of Squillæ, more usually denominated lobsters, or cray-fish, we have the subsequent species: the common lobster; the thick-horned, slender-bodied lobster; the short and broad-bodied lobster; the very long-bodied lobster; the small-bodied lobster; the great sea cray-fish; and the cray-fish with the snout serrated above, and a single denticulation at the base; which last, though only three inches and a half in length, greatly approaches to the figure of the common lobster.

Of the Squillæ, more properly called cancræ or crabs, there are the following species: the common large crab; the wart crab; the spider-crab, or long-legged, short-tailed Squilla; the king, or Molucca crab, called the Squilla clypeata; the rough-bodied, smooth-clawed Squilla, called cancer mæas; the smooth and long-clawed crab; the little squall crab; the little woolly crab; the thick-bodied duck crab; the very long armed duck crab; the very small-bodied, rough, long-armed crab; the lunar crab; the florid crab; the prickly and hairy long-armed crab; the great prickly long-armed crab; the short-bodied reticulated crab; the elliptic bodied crab; and the smooth long-legged crab.

**SQUIRREL.** A distinct genus of animals of the order of glires, and class of mammalia; the distinguishing characters of which are, that they have two cutting-teeth in each jaw, the upper in the form of a wedge, and the lower compressed: to which may be added, that they have four toes on the fore-feet, and five on the hinder; and long tails clothed with long hairs.

Linnæus has enumerated eleven species; the vulgaris, niger, cinereus, flavus, palmarum, getulus, striatus, glis, æstuans, volans, and sagitta.

The English word Squirrel is derived from Skia, Shade; and Oura, a Tail; because this animal carries it's tail in such a manner as to form an umbrella.

**SQUIRREL, COMMON;** the Sciurus Vulgaris of Linnæus. This animal is so well known as to require little description: but if any person was entirely unacquainted with it, some idea of it's figure might be conveyed to his senses by comparing it to a rabbit with short ears, and a very long tail. The ears are terminated by long tufts of hair; the colour of the head, body, tail, and legs, is a bright reddish brown; the belly and breast are white; the eyes are large, black, and lively; the fore-feet are strong, sharp, and well adapted to hold it's food; the legs are short and muscular; the toes are long, and divided to their origin; and the nails are sharp and strong.

This animal is compleatly formed for climbing, or clinging to the smallest boughs. The tail of the Squirrel is alone sufficient to distinguish it from every other animal, being extremely long, beautiful, and bushy, spreading like a fan; and, when thrown up behind, serves as a covering to the whole body. When erected, it answers the purpose of an umbrella in defending the little animal from the annoyances of heat and cold; and, when extended, is extremely service-

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able in assisting it to take those prodigious leaps from tree to tree which afford so much amusement to spectators. It also answers another purpose: for we are assured by Kleim, Scheffer, and Linnæus, that when the Squirrel is disposed to cross a river, a piece of bark serves for it's boat, and it's tail instead of a sail.

The Squirrel is a beautiful little animal, that may be said to be only half savage; and which, on account of it's docility and innocence, merits our protection. It is neither carnivorous nor destructive. It's usual food consists of fruits, nuts, and acorns. It is cleanly, nimble, active, and industrious. It's eyes are sparkling; and it's whole physiognomy is marked with meaning. Like the hare and rabbit, it generally sits on it's hinder legs, using it's fore-paws as hands. It seldom descends to the ground, except during a storm; but continues leaping from one branch of a tree to another. It never leaves it's food to chance; but in summer secures in the hollow of some tree a vast magazine of nuts for winter provision, providently looking forward to that dreary season which shall strip the trees of the forest both of their fruits and foliage.

It's nest is generally formed among the large branches of some great tree, where they begin to fork off into small ones. After selecting a situation where the timber begins to decay, and a hollow may the more easily be made, the Squirrel begins by making a kind of level between the forks; and then bringing moss, twigs, and dry leaves, it interweaves them with so much art, that they are capable of resisting the most violent storm. This is covered up on all sides; and has only a single opening at top, just large enough to admit the little animal; and this opening itself is defended from the weather by a kind of canopy, fashioned like a cone.

The nest thus formed, with a very little opening above, is nevertheless very commodious and roomy below; soft, well-knit, and in every respect warm and comfortable. In this retreat the little animal brings forth it's young, shelters itself from the scorching heat of the sun, and from the inclemency of the winter, which it is still less capable of supporting than heat. It's store of nuts and acorns is seldom deposited in it's nest, but in some hollow of the tree, carefully piled up, and never touched but in cases of necessity. Thus a single tree serves both for a retreat and a storehouse; and, without quitting it during the winter, the Squirrel possesses all those enjoyments which it's nature is capable of receiving.

But it sometimes happens that the little mansion of the Squirrel is attacked by a potent and implacable foe: the martin searches out it's retreat, in order to secure it for her young; and after destroying the tenant, takes possession of his habitation, thus adding cruelty to injustice. However, this is a calamity which seldom happens; and, of all other creatures, the Squirrel leads the most frolicsome and playful life, being surrounded with abundance, and having but few enemies to dread.

These animals feel the natural desire early in the spring; when, as Pennant observes, it is very diverting to see a female feigning an escape from the pursuit of two or three males; and to observe the various proofs which they give of their agility, which is then exerted in full force. Nature seems to have been particular in her formation of these creatures for propagation: however, they seldom bring forth above four or five young at a time, and



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and that only once a year. The period of their gestation is about six weeks; they are pregnant in the beginning of April, and bring forth about the middle of May.

The Squirrel never appears in the open fields, nor in the coppices or underwoods; but always keeps among the tallest trees, and avoids as much as possible the habitations of men. It is so extremely vigilant, that if the tree in which it resides be only touched at the bottom, it instantly takes the alarm, quits its nest, and flies off to another tree; and thus travels with the greatest ease along the tops of the forest, till it finds itself perfectly beyond the reach of danger: it then returns to its nest by paths utterly impassable by any other quadruped. It usually moves by bounds or leaps; passes with great facility from one tree to another at the distance of forty feet; and, when compelled to descend, runs up the side of another tree with amazing agility. It usually expresses its sense of pain by a sharp piercing note; but it has another note, not much unlike the purring of a cat, by which it testifies its pleasure or satisfaction.

Having already hinted at the Squirrel's mode of sailing, it may not be improper to give a more particular account of this singular exertion. When, in their progress, these animals meet with broad rivers or extensive lakes, which in Lapland are very numerous, they return into the neighbouring forest, as if by common consent, each in quest of a piece of bark, which, instead of so many boats, serves to waft them over. When all equipped, they boldly commit their little fleet to the mercy of the waves; every Squirrel being seated on its own piece of bark, and fanning the air with its tail. In this manner they frequently cross lakes several miles in breadth. But the little mariners are not always aware of the danger of their navigation; for though the water may be calm near the margin, it is generally more turbulent towards the centre: an additional gust of wind sometimes overturns the whole navy, and a shipwreck of three or four thousand sail ensues. This dreadful catastrophe is considered as a lucky accident by the Laplanders on shore, who collect the dead bodies which are landed by the waves, feed on the flesh, and sell the skins at a good price.

The Squirrel is easily tamed, and becomes a very familiar animal. It delights in warmth; and will creep into a man's pocket, his sleeve, or his bosom. It is usually kept in a box, and fed with nuts; and amply compensates for the expence of its support by the agreeableness of its manner.

The common Squirrel inhabits Europe, North America, and the northern and temperate parts of Asia. A variety of it is found as far south as the isle of Ceylon. In Sweden and Lapland the colour changes to grey in the winter season. Black Squirrels are sometimes found in Russia and Lapland; and in many parts of England there is a beautiful variety with a milk-white tail.

**SQUIRREL, CEYLON;** the *Sciurus Zeylanicus* of Ray. This animal, which is about thrice the size of the common Squirrel, is not included in the Linnæan arrangement: however, Ray and Pennant are both very particular in its description; and therefore its existence is unquestionable. Its ears are tufted with black; its nose is flesh-coloured; its cheeks, legs, and belly, are of a pale yellow hue; its forehead, back, sides, and haunches, are black; and its tail is of a light grey

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colour, bushy, and twice the length of the body. In Ceylon, of which island it is a native, it receives the appellation of Dandoelana; and also Roekca, from the noise which it makes.

**SQUIRREL, ABYSSINIA.** This species, which was first described by Thevenot in his voyage to the East Indies, appears to be a variety of the Ceylonese Squirrel. It has a round flesh-coloured nose; the hair on the upper part of the body is of a rusty black hue; the tail is a foot and half long; the belly and fore-feet are grey; and the soles of the feet are flesh-coloured. Its size is three times as large as that of the common European species.

There seems also to be another variety of the Ceylonese Squirrel, rather than a distinct species, found in the island of Java, where it was discovered by Sparman.

**SQUIRREL, BOMBAY.** The ears of this species are tufted; the head, back, and sides, are of a dull purple-colour; the belly, and the lower part of the legs and thighs, are yellow; and the tip of the tail is orange-coloured. The length of the body, from the nose to the tail, is about sixteen inches; and the tail seventeen.

This animal, which is a native of Bombay, was originally described from a stuffed skin in the cabinet of Dr. Hunter.

**SQUIRREL, RUDDY;** the *Sciurus Erythræus* of Pallas. This species, which inhabits India, is somewhat larger than the common kind. The ears are slightly tufted; the colour above is yellow, mixed with dusky; and below, of a blood-colour inclining to tawny. The tail is slender, of the same colour, and marked longitudinally with a black stripe.

**SQUIRREL, GREY;** the *Sciurus Cinereus* of Linnæus. The hair of this animal is of a dull grey colour, mixed with black, and sometimes tinged with yellow; the belly and insides of the legs are white; the ears are plain; and the tail is long, bushy, and grey, with black stripes. It is about the size of a small rabbit; inhabits the sylvan parts of Northern Asia, North America, Peru, and Chili; and is extremely common in North America, where it does incredible damage to the plantations of maize, by running up the stalks and devouring the young ears. A reward of three-pence a head is allowed by the provinces for every one that is killed; and Pennsylvania alone is said to have paid in rewards the enormous sum of eight thousand pounds currency for those destroyed in one year.

These animals make their nests in hollow trees, and line them with moss, straw, and wool. They feed on maize, pine cones, acorns, and mast of all kinds. They dig holes in the ground, in which they deposit a large stock of provisions against the winter season. When in want of food, they descend from the trees, in order to visit their magazines; and, during the severity of winter, confine themselves to those subterraneous retreats for several days successively. They run up and down the trunks of trees, but seldom bound from branch to branch. In many particulars they imitate the manners of the common Squirrel; and are very easily tamed.

Buffon gives this animal the appellation of *Le Petit Gris*; and its furs, which are imported under the name of *petit gris*, are very valuable. Its flesh is also esteemed very delicate.

**SQUIRREL, BLACK;** the *Sciurus Niger* of Linnæus.



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**neus.** This animal is sometimes entirely black; but generally marked with white on the nose, the neck, or the tip of the tail. It has plain ears; its tail is shorter than that of the grey Squirrel, but its body is nearly of an equal length. It is found in Asia, North America, and Mexico. Like the grey Squirrel, it makes great havock among the maize; and, like that animal, forms its nest in a hollow tree, and lays up a store of provisions against the winter season.

There is an obscure variety of this species found in Virginia, a specimen of which is preserved in the Leverian Museum.

**SQUIRREL, HUDSON'S BAY.** This species, which Pennant describes from a specimen in the Leverian Museum, inhabits the pine-forests of Hudson's Bay, and Terra Le Labradore. It has plain ears; and is marked along the middle of the back with a ferruginous line from head to tail. The sides are paler; and the belly is of a pale ash-colour, mottled with black. The tail, which is neither so long nor so bushy as that of the common kind, is of a ferruginous colour, barred with black; and, towards the tip, has a broad belt of the same colour. It is somewhat less than the European Squirrel in size.

**SQUIRREL, VARIED;** the *Sciurus Striatus* of some naturalists; and the *Coquallin* of Buffon. The nose and feet of this animal are of a pale red colour; the eyes are full; and the ears are plain. The ridge of the back is marked with a black streak; and each side with a pale yellow stripe, bounded above and below with a line of black. The head, body, and tail, are of a reddish brown hue; and the breast and belly are white.

These Squirrels inhabit the north of Asia, and are very numerous in the forests of North America. They never ascend trees, except when pursued, and have no other means of escape. They burrow under ground; and form their habitations with two avenues, that they may have access to the one should the other happen to be stopped up. These retreats are ingeniously contrived, in the form of a large gallery, with two branches on each side; and at the end of each branch a large chamber, which serves as a magazine for their winter provision. In one they deposit acorns; maize in another; hickory nuts in a third; and chesnuts, their most favourite food, in a fourth. If their stores hold out, they seldom stir from their apartments during the winter season; but if they are exhausted, they dig into cellars where apples are kept, or barns where maize is stored, and do incredible mischief. However, cats destroy them in prodigious numbers, and diminish the ill effects of their depredatory qualities.

These animals bite severely; and are so extremely wild, that it is hardly possible to tame them. Their skins are of very little value; but they are sometimes used for the linings of cloaks.

**SQUIRREL, FAIR;** the *Sciurus Flavus* of Linnæus. This animal is a native of the woods near Amadabat, the capital of Guzarat; and, according to Linnæus, is also found in South America. The body and tail are of a flaxen colour; the ears are rounded and plain; and the tail is also rounded. This species is much less than the common one.

**SQUIRREL, BRAZILIAN;** the *Sciurus Æstuanus* of Linnæus. This creature inhabits Brazil and Guiana. Its ears are plain; and its tail is rounded. The head, body, and sides, are covered with soft dusky hairs, tipped with yellow; the throat

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is cinereous; the inside of the legs and belly is yellow; and the belly itself is longitudinally divided with a white line, which commencing at the breast, is interrupted for a small space at the middle, and then continued to the tail. The length, from the nose to the tail, is eight inches and a quarter; and the tail is ten inches.

**SQUIRREL, MEXICAN;** the *Halmototli* of Fernandes; and the *Sciurus Rarissimus* of Seba. This species, which inhabits New Spain, is of a mouse-colour. The male is marked on the back with seven white lines, extending along the tail; and the female with only five. The tail of the male is divided into four parts at the extremity, though we are rather inclined to believe this to be an accidental quality; and the scrotum is pendulous, like that of a goat.

**SQUIRREL, PALM;** the *Sciurus Palmarum* of Linnæus. This species has plain ears; an obscure pale yellow stripe on the middle of the back; another on each side; and a third on each side of the belly. The rest of the hair on the sides, back, and head, is black and red, very closely mixed; that on the thighs and legs is more red; the belly is a pale yellow; the hair on the tail does not lie flat, but encircles it, and is of a dirty yellow colour barred with black.

According to Ray and Clusius, this species does not erect its tail, like other Squirrels; but has the faculty of expanding it sideways.

**SQUIRREL, BARBARY;** the *Sciurus Getulus* of Linnæus. This creature is a native of Barbary and other warm countries, where it lives in trees, especially palms. It has full black eyes, with white orbits; the head, feet, body, and tail, are cinereous, inclining to red; the sides are longitudinally marked with two white stripes; the belly is white; and the tail is bushy, regularly marked with shades of black, one beneath the other. It is equal to the common Squirrel in size.

**SQUIRREL, PLANTANE.** This species, which is found in Java, nearly resembles the common kind, except that it is lighter-coloured, and has a yellow line extending along the sides from leg to leg. It generally lives on plantane trees, and hence has received its appellation.

**SQUIRREL, WHITE-NOSED.** This animal is somewhat larger than the grey Squirrel. It is a native of the Floridas; and is principally distinguished from others of the same genus by having a white nose. Its eyes are of a chesnut-colour; and its ears are white, their extremities being terminated by long hairs. The back, breast, belly, thighs, and legs, are of a velvet black hue; the feet are white, intermixed with dusky brown hairs; and the tail is very bushy and black, with a white tip.

**SQUIRREL, SAILING;** the *Sciurus Sagitta* of Linnæus. This animal has a small round head; small blunt ears; a short neck; a cloven upper lip; and two small warts at the exterior angle of each eye, with hairs proceeding therefrom. It has four toes on the fore-feet; and, instead of a thumb, a slender bone, two inches and a half long, lodged under the lateral membrane, which serves to expand it. From thence to the hind legs extends the membrane, which is broad, and a continuation of the skin of the sides and belly. It has five toes on the hind feet, with a sharp claw on each. The tail is covered with long hair, horizontally disposed. The colour of the head, body, and tail, is a bright bay, inclining to orange in



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in some parts; and the breast and belly are of a yellowish white. The length, from the nose to the tail, is about eighteen inches; and the tail is fifteen.

This species inhabits Java, and some other Indian islands; leaps from tree to tree with amazing velocity; and catches hold of the boughs with its tail.

These animals vary much in size. Linnæus describes one about the magnitude of the common Squirrel; and Sir Edward Michelbourne killed one, in an Oriental isle, that was larger than a hare. Nieuhoff describes this creature under the appellation of the flying-cat.

A variety of this kind is found near Severn River, in the southern parts of Hudson's Bay.

**SQUIRREL, FLYING;** the *Sciurus Volans* of Linnæus. This little animal, which is frequently imported into England, is considerably less than the common Squirrel. Its skin, which is very soft, is elegantly adorned with a dark fur in some parts of the body, and a light grey in others. It has round naked ears; large prominent sparkling eyes; and very sharp teeth, with which it gnaws any substance very expeditiously. It has a lateral membrane, extending from the fore to the hind legs; and its tail is covered with long hair, horizontally disposed. When it does not leap, its tail lies close on its back; but when it is inclined to exert its powers, its tail moves backwards and forwards from side to side.

This animal will dart twenty yards from one tree to another, at a single bound: but it sinks considerably before it can reach the place it aims at; and, apparently sensible of this, it mounts the higher in proportion to the distance it intends to reach. It is assisted in this spring by a very peculiar formation of the skin or membrane which extends from the fore feet to the hinder; so that, when it stretches its fore legs forward, and its hind legs backward, this skin is extended between them, somewhat after the manner of the bat. Thus the little animal keeps buoyant in the air till the force of its first impulse is spent; but, as it is incapable of renewing it, a speedy descent is inevitable. The Flying Squirrel, however, does not move like a bird, by repeated strokes of its wings; but rather in the manner of a paper-kite, supported by the expansion of the surface of its body, which renders it specifically lighter than it otherwise would be.

This animal inhabits North America and New Spain. A variety, differing chiefly in colour, is also found in Lapland, Finland, Poland, and Russia. Like the common Squirrel, it is usually seen on the tops of high trees; but, though better calculated for leaping, it is of a more torpid disposition, and seldom exerts its powers: it therefore frequently becomes the prey of the martin and pole-cat. It does not appear fond of almonds and nuts, like most other Squirrels; but its favourite food consists of the sprouts of the birch, and the cones of the pine. Though easily tamed, it embraces the first opportunity of deserting. When domesticated, it is fed with bread and fruits; and generally sleeps by day, though more sprightly and agile by night.

These creatures usually produce three or four young at a time.

**SQUIRREL, HOODED;** the *Mus Volans* of Linnæus. This species is a native of Virginia; and, according to Seba, has the lateral membrane beginning at the chin and ears, and extending, as in

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the Flying Squirrel, from the fore to the hind legs. It is of a reddish colour above; cinereous, and tinged with yellow, beneath. Its ears are large and oval.

**STAG, OR RED DEER, OR HART;** the *Cervus Elaphus* of Linnæus. A species of deer, with long upright horns, much branched; and slender, sharp brow-antlers.

The Stag is generally of a reddish brown-colour, with some black about the face; and a black list down the hind part of the neck, and between the shoulders. It is common to Europe, Barbary, the north of Asia, and North America. It proves furious and dangerous in rutting-time, which is in the month of August. The flesh is rank and coarse; the skin is adapted for many useful purposes; and the horns yield hartshorn.

**STAG-BEETLE;** the *Lucanus Cervus* of Linnæus. *Lucanus*, according to this great naturalist's distribution, is a genus of the coleoptera order of insects: the characters of which are; that the antennæ are elevated; and the maxillæ extended, exerted, and dentated. It comprehends seven species; one of which is the Stag-Beetle, or *cervus volans*.

**STAG-WORMS.** A species of Worms discovered by Reaumur, which originate from the eggs of a fly, and are lodged behind and under the palate of the deer's mouth. These Worms are always found in considerable numbers together, contained in fleshy bags, placed as the almonds of the ears in the human species. Huntsmen are well acquainted with their existence; and are of opinion that they occasion the falling off of the creature's horns; but this is a vulgar error.

Reaumur has sufficiently proved that these Worms remain where they are first found, till they arrive at a state to change into flies; to whose eggs they owe their origin, and whose forms they at last assume.

**STANNEL.** An English appellation for a species of hawk, more commonly called the kestrel.

**STAPHYLINUS.** A genus of the coleoptera order of insects. The characters of which are: the antennæ are slender and filiform; the elytra are dimidiated; the alæ are covered; and the tail is simple, projecting two oblong vesicles.

Linnæus enumerates twenty-six species, distinguished from each other by the colour of the several parts of the body.

**STAR-FISH, ASTERIAS, OR STELLA MARINA.** A genus of naked insects, in form of a radiated star. The mouth is situated in the centre, on the under part; and the anus in the centre, on the upper part. The tentacula are extremely numerous, and in a manner cover either the whole upper surface of the body, or the extremities of the ramifications.

This genus contains a great variety of species, which are distinguished according to the number of their rays. Their sizes are also extremely different: for the largest, or great Magellanic Star-Fish, forms a circle of three feet in diameter when its rays are fully extended; while there are some less than one inch in diameter.

According to the Linnæan distribution, the Star-Fish, Sea-star, or *Asterias*, is a genus of the mollusca order of worms: the characters of which are; that the body is depressed, covered with a coriaceous coat, and furnished with tentacula; and that the mouth is in the centre, and has five valves.

Linnæus has enumerated sixteen species of this genus:



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genus: one of which, or the moon *Asterias*, is entire; nine are stellated; and six are radiated.

The common Star-Fish, the *Asterias Glacialis* of Linnæus, with five heptagonal rays, and prickly angles; is frequent in the British seas, where it feeds on oysters, and is sometimes very destructive to the beds.

The arborescent Star-Fish, or *Stella Arborescens*, the *Caput Medusæ* of Linnæus, is a very singular curiosity. It is described as being upwards of a foot in diameter, and having it's mouth in the middle. The figure of the trunk is pentangular; and from the five angles arise as many branches, which subdivide into several others, and those again into other lesser ones, till the last are scarcely thicker than horse-hairs, and amount to upwards of a thousand in number. In swimming, this animal spreads all it's branches, like a net, to their full length; and whenever it perceives any prey inclosed, draws them in again, and seizes it with all the dexterity of a fisherman.

For a description of some of the most curious *Asteriæ*, see *ASTERIAS*.

**STAR-GAZER.** An English appellation for the *uranoscopus*, a fish frequently caught in the Mediterranean seas. It is about nine inches in length; and has a large head, of a quadrangular figure, rough and bony. The body is roundish; the upper part is of an ash colour; and the belly is white. The scales are small; and the lateral lines behind the fin approach each other, and descend to the middle caudal fin. The face is flat; and the eyes (which look upwards, and from whence the fish derives it's name) are near each other, small, protuberant, and encircled with golden irides. The mouth is pretty large; and the chin somewhat resembles the human. The jaws and palate are armed with teeth; and the lower lip is fringed with barbs. The whole face, and the covers of the gills, are very rough, being beset with warts and prickly tubercles.

**STARLING, or STARE.** A distinct genus of birds of the order of *passeres*: the characters of which are; that the beak is subulated, depressed, and obtuse; that the upper mandible is entire, with spreading margins; that the nostrils are guarded above by a prominent rim; and that the tongue is sharp. Linnæus enumerates five species.

**STARLING, COMMON;** the *Sturnus Vulgaris* of Linnæus. This bird is about the size of the black-bird; the weight of the male being about three ounces, that of the female somewhat less. The bill, in old birds, is yellow; the whole plumage is black, very resplendent, with changeable blue, purple, and copper; each feather being marked with a pale yellow spot. The lesser coverts are edged with yellow, and slightly glossed with green; the quill-feathers and tail are dusky, the former edged with yellow in the exterior side, the last with dirty white; and the legs are of a reddish brown hue.

These birds breed in hollow trees, caves of houses, towers, cliffs, and high rocks impending over the sea. They lay four or five eggs of a pale greenish ash-colour; they feed on worms and insects; and it is said that they will enter pigeon-houses, and suck the eggs. In the winter season they assemble in large flocks. Their flesh is extremely bitter, and unpalatable; but, from the facility with which they are tamed, and even taught to speak, they prove entertaining domestics.

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**STARLING, INDIAN, YELLOW;** the *Oriculus* of Linnæus. A bird described by Edwards, and brought from Bengal in the East Indies. The bill resembles that of the common Starling; the irides are hazel-coloured, encircled with yellow; and the pupils are black. The forehead, from the bill to the eyes, is of a bright yellow colour; and round the eyes the feathers are dusky. The top, the hinder part, and the sides of the head under the eyes, are black. The throat, just below the bill, is whitish; and the breast is of a light yellow colour; but the belly, thighs, and coverts, are of a deeper yellow; and the throat and breast have long, black, or dusky spots, down the shafts of the feathers. The upper side of the neck, the back, rump, and coverts on the upper side of the tail, are of a full bright yellow colour; but the greater quills of the wings are dusky, with yellow edges on their exterior webs; and all the coverts on the upper sides are yellow, with dusky spots in their centres. The middle feathers of the tail are dusky, with a yellow cast, and yellow tips; and the legs and feet are also dusky.

**STARLING, INDIAN, BLACK AND WHITE;** the *Sturnus Contra* of Linnæus. This species is a native of the East Indies, particularly of the province of Bengal. It has a sharp-pointed bill; pretty thick at the base, a little incurvated downwards, and of a yellowish orange colour. The forehead, next the base of the bill above, is white; which colour extends from the base of the upper chap all round the eyes, forming a white plat round the eye, from which a narrow white line passes from eye to eye round the back part of the head; but the top of the head, the throat, and the neck, are black, with a greenish gloss. The back, rump, wings above, and tail, are blackish; the ridge of the wing next the breast is whitish; and the exterior edges of the great quills are of a lighter brown hue than the other parts. The row of covert-feathers next above the quills have white tips; and the breast, belly, thighs, and coverts beneath the tail, are white. A brownish white line runs on the sides of the upper part of the breast, forming a ring round the lower parts of the neck behind; and the legs and feet are of a reddish brown colour.

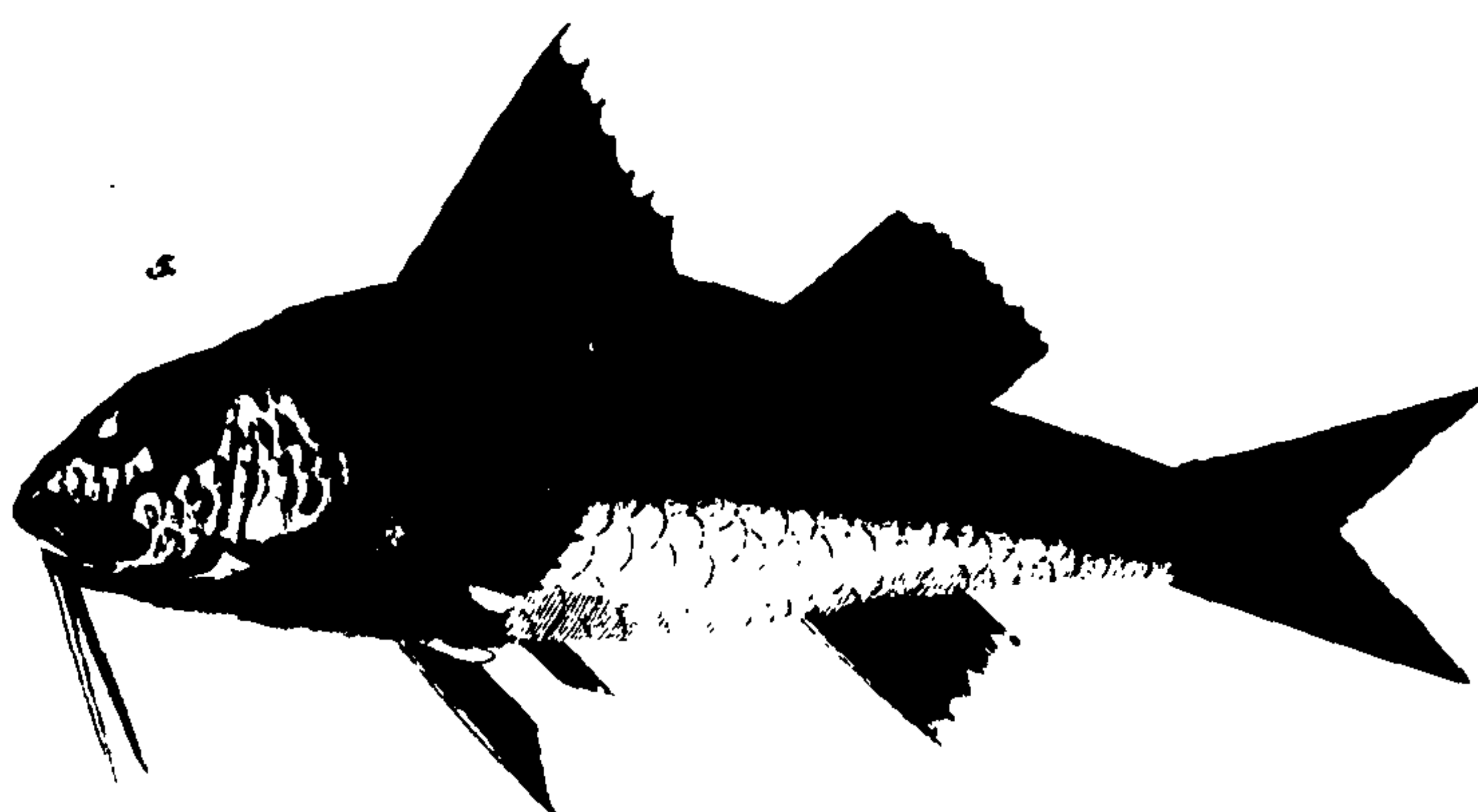
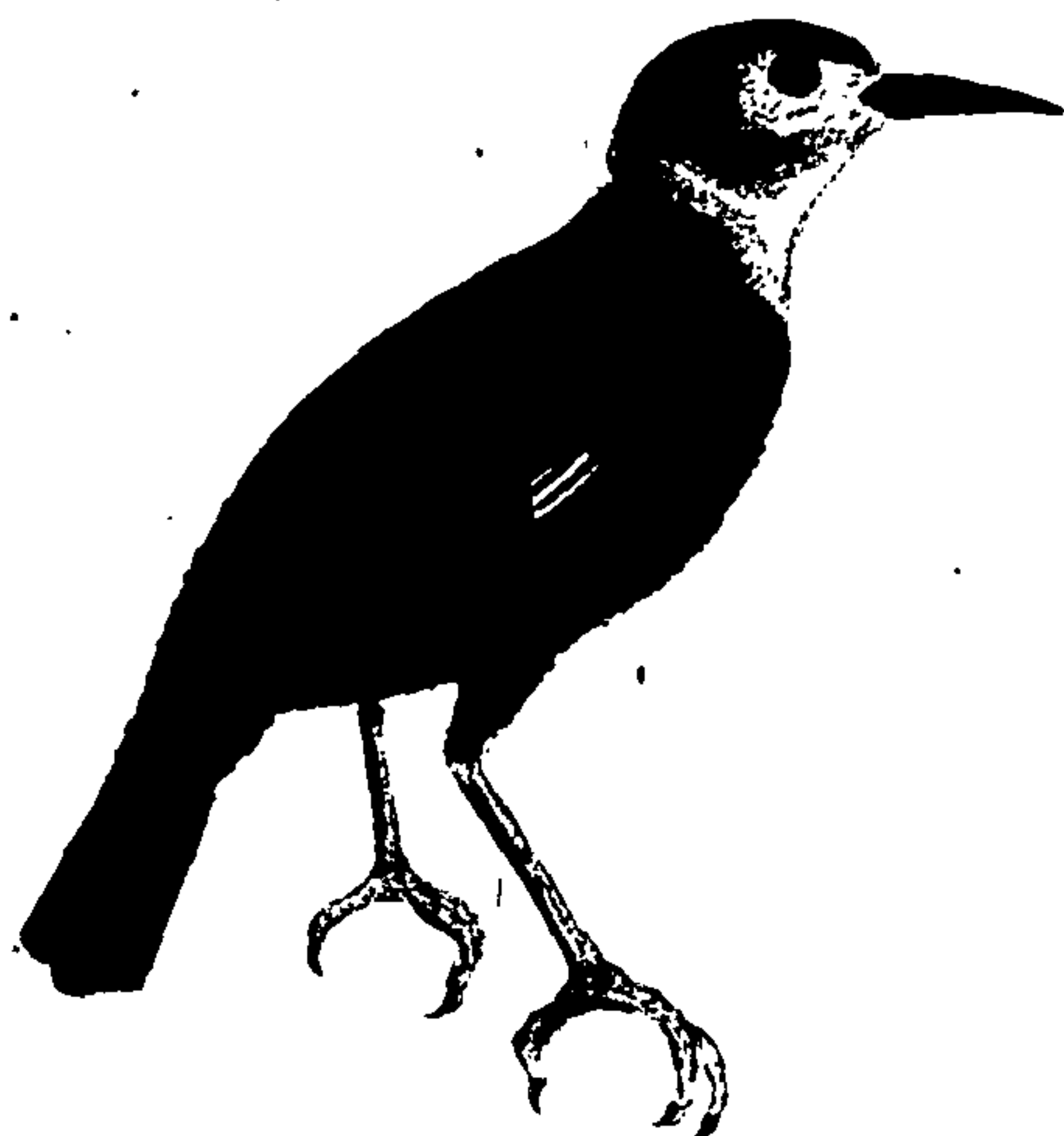
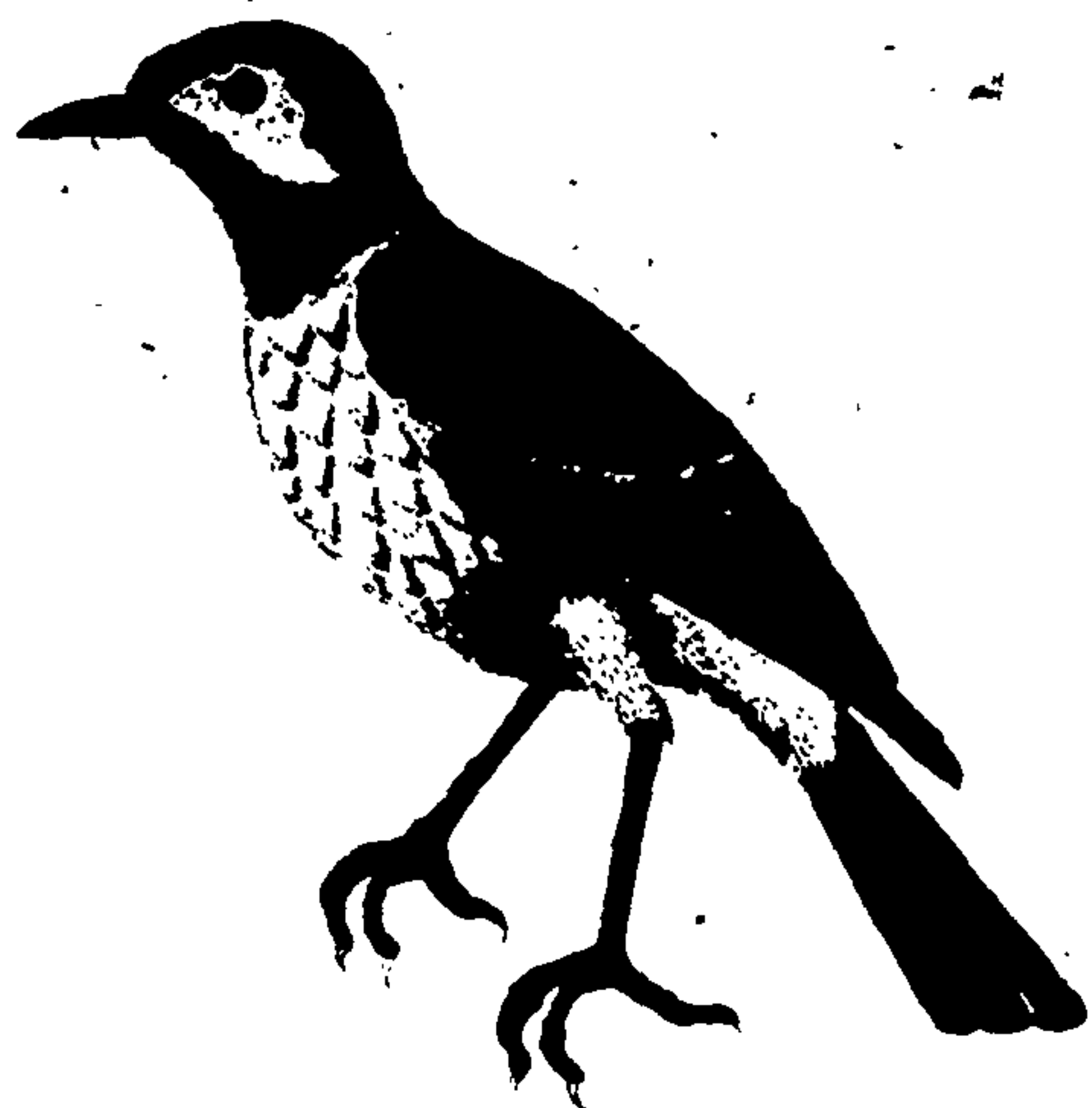
**STARLING, SILKY.** This beautiful bird is a native of China. It is about the size of the common Starling: the bill is of a deep orange colour; the head is of a yellowish white; and the body is entirely of a fine pale grey colour, of a glossy and silky appearance. The wings are black, with a single bar of white; the tail is also black; and the legs are of a reddish yellow hue.

**STARLING, RED-WINGED.** This species, which is a native of North America, weighs between three and four ounces. It is entirely of a dark grey colour, almost blackish, except that part of the wings next the neck, on which there is a large roundish space of red, reaching to the very edges; but below there is a broad yellow stripe. The hen has a lightish mixture of grey; and the red on her wings is less bright.

These birds form their nests among the reeds, the tops of which they artfully interweave, and fill their nests under the web, safe from the water below and the wet above. They destroy prodigious quantities of corn, in proportion to their size; but they are capable of being tamed, and taught to speak.

**STARLING, INDIAN;** the *Sturnus Indicus* of Ray and





1. BLACK AND WHITE INDIAN STARLING. 2. COMMON STARLING. 3. SILKY STARLING.  
4. YELLOW INDIAN STARLING. 5. STRIPED SURMULLET.



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and Bontius. This beautiful bird is about the size of our common Starling. It is variegated with a deep blue, a lead colour, and a pale grey; and its head is adorned with a beautiful yellow crest. It learns to imitate the human voice; and even talks, with more distinct articulation than the parrot.

**STEINBIZA.** An appellation by which some ichthyologists express that small species of the cobitis, more usually denominated cobitis aculeata, and tænia cornuta. Artedi calls it the cobitis with a forked spine under each eye.

**STEINHUN.** A name given by the German ornithologists to a bird of the lagopus kind, more commonly known by the appellation of otomo. It differs very little from the lagopus in any thing but colour; and as that bird is known to vary its plumage in the summer months, it is probably the same.

**STELLA CRINITA.** A Linnæan appellation for a genus of star-fish: the characters of which are; that they have more than five rays; and from these proceed several other lateral processes, which are covered with a fine down or hair.

**STELLA MARINA.** A name by which some express the asterias, or star-fish.

**STELLA ARBORESCENS.** A curious species of star-fish. See *ASTERIAS ARBORESCENS*.

**STELLA SCOLOPENDROIDES.** An appellation by which Linkius and some others express a species of star-fish, with an undivided body, and five rays, resembling the bodies of the scolopendræ; as those of the more usual kinds, called stella lumbricalis, do the bodies of common earth-worms.

**STELLA VERMIFORMIS.** A name sometimes used for the common star-fish, with five rays parting from the body, each resembling a large common worm.

**STELLIO.** A term whereby the creature otherwise called a swift, or spotted lizard, is frequently expressed. The spots, however, which distinguish this kind, are not stellated, as might naturally be inferred from the name, but round; some small, and irregularly scattered over the body; and others larger, and disposed in thirteen zones, or semicircles. The spots on the back are much more distinct than those on the belly.

This animal is common in Syria, and some other countries. Its bite is said to inspissate the humours, and stupify the senses: to remedy which, Venice treacle and volatile salts are recommended. The flesh is said to excite sweat, and resist poison. See *FET*.

**STERCORARIUS PISCIS,** the Dung-Fish. An Oriental fish, so called from its frequenting necessary houses erected over the water, and other places where ordure is to be found. The nature of its food has raised unfavourable opinions of the salubrity of its flesh; however, it is really well-tasted and wholesome.

This fish is broad and thin; about six or seven inches in length, and as many in breadth. Its back is variegated with spots of deep brown; and its belly is blueish.

**STERNA.** A genus of the order of anseres in the Linnæan system. Its characters are; that the bill is toothless, subulated, straight, acute, and a little compressed on the sides; the nostrils are linear, and situated at the base of the bill: to which may be added, that the tongue is slender and

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sharp; the wings are very long; the tail is forked; and there is a small back toe. Linnæus enumerates seven species, some of which are referred by other naturalists to the genus of gull.

**STICKLEBACK.** An English appellation for the small fish denominated by different authors spinachia, spinax, pungitius piscis, pisciculus asper, and pisciculus aculeatus; and by Artedi called by the more expressive name of Gasterosteus, denoting the great singularity which appears in the bony structure of its belly. There are several species.

**STICKLEBACK, COMMON, OR THREE SPINED;** the Gasterosteus Aculeatus of Linnæus. This fish is properly distinguished by having three spines on its back, in which character it differs from the other species of this genus. It is a very common fish, abounding particularly in new dug ditches, where its origin cannot easily be traced. Hence the vulgar opinion, that it breeds there equivocally and of itself, without the assistance of parents of its own kind, and that from it all other fishes originate.

This creature seldom grows to the length of two inches. The eyes are large; the belly is prominent; the body near the tail is square; and the sides are covered with large bony plates, placed transversely. On the back there are three sharp spines, capable of elevation or depression at pleasure; the dorsal fin is placed near the tail; the pectoral fins are broad; the ventral fins consist each of one spine or plate, of unequal lengths; between both there is a flat bony plate, reaching almost to the vent; and beneath the vent there is a short spine, and then succeeds the anal fin. The tail consists of twelve rays, and is even at the end. The colour of the back and sides is an olive green; the belly is white; but, in some, the lower jaw and belly are of a bright crimson.

These fishes are extremely plentiful in the fens of Lincolnshire, and some of the rivers rising from them. Once in seven or eight years, amazing shoals of them appear in the Welland, near Spalding, ascending the river in the shape of a column. These are supposed to be the multitudes which have been washed out of the fens by the floods of several years, and collected in some subterraneous retreat, till, overcharged with numbers, they are compelled periodically to seek a change of place. The quantity of Sticklebacks is so immense on these occasions, that they are used in manuring the land; and experiments have been made to get oil from them.

**STICKLEBACK, LESSER, OR TEN SPINED;** the Gasterosteus Pungitius of Linnæus. This fish is much smaller than the common kind, and of a more slender make. The back is armed with ten short sharp spines; crossing each other; the sides are smooth, not plated, like those of the common kind, which in other respects it resembles; the colour of the back is olive; and the belly is silvery.

**STICKLEBACK, FIFTEEN SPINED;** the Gasterosteus Spinachia of Linnæus. This species is about six inches long; the nose is long and slender; the mouth is tubular; and the teeth are small. The fore part of the body is covered on each side with a row of bony plates, forming a ridge; the body afterwards becomes very slender, and quadrangular; between the head and dorsal fins there are fifteen small spines; the dorsal is placed opposite the anal fin; the ventral fins are wanting; the tail is even at the extremity; the colour of the upper



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upper part is a deep brown; and the belly is white.

This species inhabits the sea, and is never found in fresh waters.

**STINT**; the *Tringa Cinclus* of Linnæus. A small bird which frequents the sea-shores of many parts of England; apparently the same with the *Cinclus Prior* of Aldrovandus, and the *Alouette de Mer*, or sea-lark, of the French, called by Pennant the *Purre*.

This bird is somewhat smaller than the common lark, and in shape resembles the smaller snipe. The beak is black, slender, and straight; the legs are of a dusky green colour; the head, and the hind part of the neck, are ash-coloured, marked with dusky lines; a white stroke divides the bill and eyes; the chin is white; the under side of the neck is mottled with brown; and the back is of a brownish ash-colour. The breast and belly are white; the coverts of the wings and tail are dark brown, edged with light ash-colour or white; the greater coverts are dusky tipped with white; the upper parts of the quill-feathers are dusky, the lower white; the two middle feathers of the tail are dusky; and the rest of a pale ash-colour, fringed with white.

These birds resort to our coasts in prodigious flocks during the winter season, and in their flight perform a number of evolutions with great regularity. They leave our shores in the spring, and retire to some unknown place, for the purpose of breeding. They were formerly much esteemed at the tables of the voluptuous.

**STIP VISCH**. A Dutch appellation for an East Indian fish with two dorsal fins, the anterior of which is prickly. It's skin is spotted; and it's flesh is very delicate and well-tasted.

**STOAT**. A name by which some naturalists express the ermine, the *Mustela Erminea* of Linnæus. See **ERMINE**.

**STOCK-DOVE**. See **PIGEON**.

**STOCKER**. A German appellation for the *sauros* of the ancient, and the *trachurus* of modern naturalists. It is a species of scomber, well known in England by the name of the horse-mackerel. See **MACKEREL**.

**STOMATIA**. A genus of shell-fish, frequently confounded with the *haliotis*, or ear-shell.

The shell of the *Stomatia* is formed of one piece; and is of a depressed flat figure, without any perforations in any part of it's surface. It's mouth is the most patent of all the univalve shells, the limpet only excepted.

There are several species of this genus, which are borrowed from Hill's distribution.

**STOMPNEUSEN**. An African fish, caught near the Cape of Good Hope; so called from the fore part of the head being flat. The scales are large, and of a purple colour; the eyes are full; and the teeth are round and sharp.

**STONE-CHATTER**; the *Motacilla Rubicola* of Linnæus; called also the *Rubetra* and *Muscicapia*; and in some places the *Stone-Smith*, and *Moor-Titling*.

This bird is common on heaths and gorsy grounds in summer; and during winter takes up it's residence in marshes, and other damp places; but never quits the island. It is a restless and noisy creature, frequently perching on some bush, and chattering incessantly. The head, neck, and throat, are black, but on both sides of the latter there is a white bar; the plumage on the back is edged with tawny; the lower part of the back,

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just above the rump, is white; the end and exterior side of the two outmost feathers of the tail are of a pale rust-colour, and the rest are black. The breast is of a deep reddish yellow colour; the belly is of a lighter hue; the quill-feathers are dusky, edged with pale red; those next the body are marked with a white spot near their bottoms; and the coverts of the wings are adorned with another. The head of the female is ferruginous, spotted with black; and the colours in general are less vivid. In both sexes, the legs are black.

**STONE CURLEW**. An English appellation for the *Charadrius Oedicnemus* of Linnæus; the *Thick-Kneed* of Pennant. See **THICK-KNEED**.

**STONE-SMICH**. A provincial appellation for that species of the *oenanthe* more usually denominated the *Stone-Chatter*. See **STONE-CHATTER**.

**STONE-SUCKER**. See **PETROMYZON**.

**STOPPAROLD**. A bird of the *alauda* kind, described by Aldrovandus; and supposed by Ray to be the same with the *Spipoletta*, or *Tordino*, of the Venetians. It is synonymous with the *Muscicapula Grisola* of Linnæus. See **FLY-CATCHER**.

**STORK**. A bird of the heron kind; of which there are several species, or rather varieties, as the principal difference is in colour.

**STORK, COMMON**; the *Ardea Ciconia* of Linnæus. This bird is larger than the common heron, but it's neck is shorter and thicker. It's head, neck, breast, and belly, are white; it's eyelids are naked; it's rump, and the exterior feathers of it's wings, are black; it's tail is white; it's beak is long, and reddish; and it's legs are of the same colour.

On a transient view, the Stork might be confounded with the crane. It is of the same size; and has the same conformation as to the bill, neck, legs, and body; but it is rather more corpulent. The Stork, however, possesses distinctions in it's manners by which it is easily discriminated from the crane. The latter has a loud piercing voice; the former is silent, and makes no other noise than what is produced from the clacking of it's under chap against the upper. The crane feeds chiefly on vegetables and grain; the Stork preys entirely on frogs, fishes, birds, and serpents. The crane carefully avoids cities, towns, and other populous places; the Stork lives always either in or near them. And, lastly, the crane lays but two eggs; whereas the Stork generally lays four.

Storks are birds of passage; but it is difficult to determine whence they come, or whither they go. When about to leave Europe, they assemble together on some particular day, and never leave one of their company behind them. They take their flight during the night; which is probably the reason why their course has never been ascertained. They generally return to Europe about the middle of March, and make their nests on the tops of chimnies and houses, as well as in high trees. They are a whole month in hatching; and, when their young are excluded, they shew a particular concern for their safety.

As the food of these birds consists in a great measure of frogs and serpents, it need not appear surprising that different nations have paid them a species of veneration. The Dutch are very solicitous for the preservation of the Stork, in every part of their republic. This bird seems to have taken refuge among their towns. It builds on the tops of their houses without the least molestation;



tion; and is seen resting familiarly in their streets, where it is protected as well by the laws as the prejudices of that people. They have even adopted the idea that it will live only in a republic; and the story of it's filial piety, first propagated of the crane, though without foundation, has in part been ascribed to the Stork. But it is not in republics alone that the Stork is known to reside, as there are few towns on the Continent in low, marshy situations, that have not this bird as an inmate among them.

The Stork appears to be a general favourite among the moderns; but the ancient Egyptians carried their regard to it even to adoration. This enlightened people, who worshipped the Deity in his creatures, paid divine honours to the ibis, as is universally known; and it has been usually supposed that the ancient ibis was the same with that which at present goes by the same name, a bird of the Stork kind, about the size of the curlew, entirely black, with a strong bill, terminating in a sharp point, for the better seizing it's prey, namely, locusts, serpents, and caterpillars.

But however beneficial the modern ibis may have been in ridding Egypt of the vermin and venomous animals with which it is infested, it is questionable whether this be the same ibis to which the ancients paid their adoration. Maillet, the French consul at Cairo, observes, that it is very difficult to determine with certainty what bird the ancient ibis was, because there are cranes, Storks, hawks, kites, and falcons, which are all equally inimical to serpents. He adds, that in the month of May, when the winds begin to blow from the internal parts of Africa, several sorts of birds descend from Upper Egypt, from whence they are driven by the heavy rains in search of more commodious habitations; and that then they render this country such signal services.

Nor does the figure of this bird, hieroglyphically represented by the Egyptians in their sculptures, sufficiently mark it to make the distinction obvious. Besides, the modern ibis is not peculiar to Egypt, as it is to be seen there only at particular seasons; whereas Pliny informs us that this bird never migrated to any other part of the world. It is therefore conjectured, with most appearance of probability, that the true ibis is a bird of the vulture kind, called by some the Capon of Pharaoh.

The white Stork is sometimes seen on the English coasts; but it never breeds in this island.

**STORK, BLACK;** the *Ardea Niger* of Linnæus. This is the modern ibis of Egypt. It is somewhat smaller than the white Stork: the head, neck, back, and wings, are black, with a greenish cast; the eye-lids are naked; the breast, belly, and sides, are white; and the beak and legs are green.

**STORK, AMERICAN.** This bird is of the shape and size of the common Stork, and partly of the same colour. The feet are red; and the tail is short and white. The head, neck, and whole body, are covered with a snow-white plumage, as are also the wings at their beginnings; but near the back they are black, with a shining greenish gloss. The bill, from the base to the middle part, is of a greenish yellow hue; but the remainder is of a blueish ash. It snaps with it's bill like the common Stork.

**STORM FINK, OR LITTLE PETREL;** the *Porcellaria Pelagica* of Linnæus. This bird is somewhat larger than the common sparrow; and

entirely black, except the coverts of the tail and the web-feathers, which are white. The bill is hooked at the extremity; the nostrils are tubular; and the legs are long and slender. It possesses the same faculty of spouting oil from it's bill as the other species of Petrels; and skims along the surface of the water with remarkable rapidity.

When large flocks of these birds make their appearance, the mariners prepare against a storm, which they know by experience is never far off.

**STRAPAZINO.** An Italian appellation for a bird of the wheat-eat kind; with a white rump and tail, and a brownish yellow head and back. It's wings are variegated with black and yellow; it's beak is of a brownish yellow colour; and it's throat, breast, and belly, are of a yellowish white.

**STREPSICEROS.** An appellation given by Ray to the Cretan sheep. See **SHEEP**.

**STRILLOZZO.** A name by which the Italians express the *emberiza alba*, or bunting. However, some are of opinion that the Strillozzo specifically differs from our bunting.

**STRIVALE.** An appellation given by some ichthyologists to the aper, or boar-fish.

**STRIX.** A classical name for the screech-owl. See **OWL**.

**STROMBUS.** A genus of shells nearly allied to the *buccina*, and called turbo by the generality of conchologists.

In the Linnæan system, the Strombus is a genus of the testacea order of worms: the characters of which are; the inclosed animal is a slug; the shell is univalve and spiral; the opening is much dilated; and the lip expanded, and terminating in a groove. Linnæus enumerates twenty-three species.

Pennant mentions only one species, viz. the *pes pelicani*, or cormorant's foot, found on the British shores.

**STROMLINGUS.** An appellation given by some ichthyologists to the aras of the Greeks, which appears to be synonymous with our common herring.

**STRUNTJAGGER.** A name by which some ornithologists express the Arctic-bird, or *Larus Parasiticus* of Linnæus. It is a species of gull abounding in the Hebrides and Orkneys, with a dusky hooked bill, and narrow nostrils. In the male, the crown of the head is black; the back, wings, and tail, are dusky; the hind part of the neck and the lower side of the body are white; the tail is composed of twelve feathers; and the legs are black, small, and scaly. The female is entirely brown.

These birds pursue the lesser gulls till they mure through fear; when darting after their excrements, they catch them before they reach the water; and hence are sometimes called dung-hunters.

**STRUTHIO.** See **OSTRICH**.

**STRUTHIOPTERI.** A term by which some writers on the insect class express a series of flies, which never feed on flesh, but are always found on flowers and the leaves of plants. There are several species of this kind; and in general they are early flies, appearing in the vernal season.

**STURGEON;** the *Accipenser Sturio* of Linnæus. This fish belongs to that class which some ichthyologists term *anadromi*, from it's spending part of it's time in the sea, and part in rivers. It grows sometimes to the prodigious size of eighteen feet, and to the weight of five hundred pounds; but seldom attains that magnitude in our



rivers. The nose is long, slender, and pointed; the eyes are small; the nostrils are placed near them; and there are four cirri in the lower part of the nose. The mouth, which is placed far beneath, is small, destitute of teeth, and unsupported with maxillæ; so that the mouth of a dead fish is always open, but when alive opened or closed at pleasure by means of certain muscles. The body is long, pentagonal, and covered with five rows of large bony tubercles; the whole under-side of the fish is flat; on the back, near the tail, there is a single fin; and there are also two pectoral, two ventral, and one anal fin. The tail is bifurcated, the upper part being much longer than the under. The upper part of the body is of a dirty olive-colour; the lower part is silvery; and the middle of the tubercles are white.

Sturgeons visit every country of Europe at different seasons. They annually ascend the largest rivers, in order to spawn; and propagate in amazing numbers. The inhabitants along the banks of the Po, the Danube, and the Wolga, make great profits of their yearly incursions up these respective streams, and have their nets prepared for their reception. Sturgeons are also daily exposed to sale in the markets of Rome and Venice; and are known to abound in the Mediterranean sea. Yet those fish which keep entirely either in salt or fresh water, are comparatively small. When the Sturgeon enjoys the vicissitude of fresh and salt water, it is then that it acquires an immense magnitude.

These much-esteemed fish frequently visit England. They are often accidentally taken in our rivers in salmon-nets; and particularly in such situations as are not very remote from the sea. The largest one perhaps ever caught in Great Britain, was taken in the Eske, (where they are frequently found) which weighed four hundred and sixty pounds.

North America also abounds with Sturgeons. During the months of May, June, and July, the rivers of that continent supply them in great abundance. They are then seen sporting in the water, and leaping to a considerable height above it's surface. When they fall again on their sides, the concussion is so violent, that the noise, during serene weather, is heard at the distance of several miles.

But Sturgeons are by far the most plentiful in the lakes of Frischehoff and Curischaff, near the city of Pillau. In those rivers also that empty themselves into the Euxine Sea, these fish are caught in great numbers, particularly at the mouth of the Don. At each of these places the fishermen regularly expect their arrival from the sea, and have their nets and salt in readiness for their reception.

As the Sturgeon possesses no voracious qualities, it is never caught by a bait in the ordinary way of fishing, but always by means of the net. From the description already given of it's mouth, it is not to be supposed that it would swallow any hook capable of detaining so large a bulk, and such an excellent swimmer. In fact, it never attempts to seize any of the finny tribe, but finds it's subsistence at the bottom of the ocean, consisting principally of insects and marine plants. From this circumstance of grovelling at the bottom, it's name seems to be derived; the German word *Stoeren* signifying, to wallow in the mud. That it feeds on no large animals, is sufficiently

obvious to those who have dissected it; for, on cutting it open, nothing is found in it's stomach but a slimy substance; whence some have been induced to believe that it subsists entirely on air and water.

Nor is the Sturgeon more temperate in it's appetites than timid in it's nature. It would be almost impossible to catch it, did not it's natural desire of propagation induce it to incur a variety of dangers. The smallest fish is sufficient to terrify a shoal of Sturgeons; for, being unprovided with any weapons of defence, they rely solely on their swiftness and circumspection. Like all other animals of harmless dispositions, they are gregarious; assembling rather for the purposes of pleasure than from any hope of mutual protection. Gesner asserts, that they are even delighted with sounds of various kinds; and that he has seen them shoal together at the sound of a trumpet.

The usual time (as already observed) for the Sturgeon to ascend rivers, in order to deposit it's spawn, is about the beginning of summer, when the fishermen of most large rivers make a regular preparation for it's reception. At Pillau in particular, the shores are formed into districts, and allotted to companies of fishermen; some of which are rented for about three hundred pounds sterling a year. The net in which the Sturgeon is caught is constructed with small cord, and placed across the mouth of the river; but, in such a direction, that whether the tide ebbs or flows, the pouch of the net goes with the stream. The Sturgeon thus caught, while in the water, is one of the most powerful of the finny tribe; and often tears the net to pieces that encloses it; but, the instant it's head is raised above water, all it's activity and strength ceases; it then proves a lifeless, spiritless lump; and tamely suffers itself to be dragged on shore. It has, however, been judged expedient to draw this fish gently to land; for, when stimulated by any unnecessary violence, the legs of the fishermen are sometimes broken by a single founce of it's tail. The most expert fishers, therefore, when they have dragged it to the brink, keep it's head still elevated; which prevents it from doing any mischief with the hinder part of it's body: others, by a noose, fasten the head and tail together; and thus, without immediately dispatching it, carry it to market, should one happen to be at no great distance; or keep it till their number is completed for exportation.

The flesh of the Sturgeon, when pickled, forms a well-known delicacy at the tables of the great throughout Europe; and in England it is more prized than in those countries where it is oftener caught. Fishermen have two different methods of preparing it. The one is by cutting it longitudinally into slips; which being salted, are suspended in the sun, in order to dry: the fish, thus prepared, is sold in all the countries of the Levant, and supplies the want of better provision. The other method, which is usually practised in Holland, and along the shores of the Baltic, is that of cutting the Sturgeon transversely into short pieces, and pickling them in small barrels. This is the sort usually sold in England; and of which great quantities came from the North, till the importation of it from North America was encouraged.

The roes of these fish form a very lucrative branch of trade, under the name of caviar. This valued composition is formed of the roes of all kinds



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kinds of Sturgeon, and in most European countries is extremely admired. In England, indeed, it is now seldom seen at the tables of the polite or the luxurious; but, among the Turks, the Greeks, and the Venetians, it is still a considerable merchandize.

Caviar sometimes resembles soft soap in consistence; but it is of a brown uniform colour; and is eaten, as cheese, with bread. It is made in the subsequent manner—The spawn is taken out of the fish; and the small connecting membrane being separated from it, they wash it in vinegar, and afterwards spread it on a table to dry. They then put it into a vessel with salt, breaking the spawn with their hands, not with a pestle. This done, they put it into a canvas bag, permitting the liquor to drain from it. Lastly, they rub it in a tub that has holes in its bottom, so that every drop of moisture may be evacuated; and afterwards press it down, and cover it up close for use.

It is evident that the Sturgeon was known to the ancients; for the Oniskos of Dorion, as quoted by Athenæus, entirely agrees with this fish: but whether the Accipenser of Pliny and Ovid is synonymous with the Sturgeon, is a matter not easily determined. Both these writers represent it as a foreign fish; though it is well known to be found in the Mediterranean, and even in the mouth of the Tiber, at certain seasons.

The manner of the Sturgeon's breeding is an exception among cartilaginous fishes; being, like the bony fish, ovivorous, and spawning in winter.

**STURNUS.** See STARLING.

**SUBBUTEO.** A term by which some ornithologists express that species of hawk commonly denominated the ring-tail; the male of which has been supposed to be the hen-harrier. It is also called pygargus accipiter.

**SUCKER.** An appellation sometimes given to the remora.

**SUCKER.** A name for the cyclopterus, of which there are several varieties. The distinguishing characters of this kind are; that the body is thick, and the back arched; that the ventral fins are united; and that there are four branchiostegous rays.

**SUCKER, COMMON, OR LUMP-FISH;** the Cyclopterus Lumpus of Linnæus. This curious fish is about seven pounds weight, and nineteen inches long. The shape of the body resembles that of the bream, being deep, and very thick; the back is sharp and elevated; and the belly is depressed. The irides are of a red colour; the lips, mouth, and tongue, are of a deeper red; the jaws are lined with innumerable minute teeth; and the tongue is very thick. A row of large bony tubercles extends along the ridge of the back; from above the eye to within a small space of the tail, there is another row; beneath that a third, commencing at the gills; and on each side of the belly there is a fourth row, consisting of five tubercles like the other. The whole skin is beset with small tubercles. On the upper part of the back there is a thick ridge, which has improperly been called a fin, being destitute of spines; beneath that is placed the dorsal fin, of a brownish hue, reaching nearly to the tail; and on the belly, exactly opposite, there is another of the same form. The belly is of a bright crimson colour; the pectoral fins are large and broad, almost uniting at

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their bases; and beneath these is the member by which it adheres to the rocks. This consists of an oval aperture, surrounded with a fleshy muscular and obtuse soft substance, edged with small threaded appendages, which concur as so many clasps. By means of this apparatus the animal adheres with amazing power to whatever it pleases. As a proof of its tenacity, a fish of this species, just caught, and thrown into a pail of water, has been known to fix itself so firmly to the bottom, as not to be disengaged from its hold, though lifted by the tail, together with the vessel and water over it.

These fish are very plentiful, during the spring quarter, on the coast of Sutherland, near the Ord of Caithness. The seals, which swarm at the bottom, prey greatly on them, leaving their skins pretty entire, numbers of which float ashore every season. It is easy to distinguish those situations where seals are devouring Suckers, or any other unctuous fishes, by the smoothness of the water immediately over the spot, occasioned by the great quantity of oil discharged from their bodies.

During the months of April and May, prodigious numbers of these fish are seen in the Greenland seas, to which they resort in order to spawn. Their roes are remarkably large; and on these the Greenlanders, after boiling them to a pulp, make a hearty meal. Their flesh likewise is extremely fat; which proves a powerful recommendation to the natives, who admire all oily food.

The Sucker is sometimes eaten in England, when stewed like carp; but it is neither firm nor well-tasted.

**SUCKER, UNCTUOUS;** the Cyclopterus Liparis of Linnæus. This fish is also called the sea-snail, from the soft and unctuous texture of its body, resembling that of the land-snail. It is almost transparent, and easily dissolves and melts away. It is generally found near the mouths of large rivers. The length is five inches; and the shape of the body is round, but compressed sideways near the tail. The colour, when fresh taken, is a pale brown, sometimes finely streaked with a darker hue. The belly is white, and very protuberant; the head is large, thick, and round; and the mouth is destitute of teeth, but the roughness of the jaws supplies their place. The orifice of the gills is very small; and the eyes are likewise small. The branchiostegous rays are six in number; and the pectoral fins, which are broad, thin, and transparent, almost unite under the throat. The first ray next the throat is very long, extending far beyond the rest; and is as fine as a hair. Over the base of each there is a sort of operculum, or lid, terminating in a point, which is capable of being raised or depressed at pleasure. Behind the head rises the dorsal fin, extending quite to the end of the tail; and the ventral fin begins at the anus, and unites with the other at the tail.

Beneath the throat of this fish there is a round depression of a whitish colour, like the mark of a seal, surrounded with twelve small pale yellow tubercles; by means of which it is probable the Unctuous Sucker adheres to stones, like the other species.

**SUCKER, JURA.** This species is sometimes found on the Cornish coast, but more frequently near the isle of Jura. Its length is about four inches. The skin is without scales, slippery, and of a dusky colour; the body is taper, the nose grows



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grows more slender from the head, and is rounded at the extremity. The ventral fins have four rays; and are joined by an intervening membrane with a similar depression, by means of which apparatus it adheres to stones and rocks.

**SUCKER, BIMACULATED.** This is a new species, which was discovered near Weymouth, and described by Pennant. The head is flat and tumid on each side; the body is taper; and the pectoral fins are placed unusually high. It has only one dorsal fin, placed near the tail; and the tail itself is even at the extremity. The colour of the head and body is a fine pink; that of the fins is whitish; and on each side of the belly there is a round black spot.

**SUCKER, STONE.** The English appellation for a genus of fish, more usually denominated *Petromyzon*. See *PETROMYZON*.

**SUCKER, GOAT.** A genus of the order of passerines in the Linnæan system. Its characters are these: the beak is slightly hooked, very small, subulated, and fluted at the base; the mouth is very wide, with several stiff bristles on the edge of the upper part; and the tongue is acute and entire. Linnæus enumerates two species, the European and American. In some of its characters, this genus bears a strong affinity to the swallow tribe; and hence Klein has ranked the common Goat-Sucker among swallows, calling it the swallow with an undivided tail. See *CHURN OWL*.

**SUDIS;** the *Esox Sphyræna* of Linnæus. A name by which many ichthyologists express the sea-pike, or *Lucius marinus*. This fish in some degree resembles the common river-pike, except that it is thinner in proportion to its length, approaching in that particular to the acus, or tobacco-pipe fish. The scales are small; the nose is long and conical; and the under jaw, which projects a considerable way beyond the upper, terminates in a sharp point. The tongue is large, narrow, and armed with small sharp teeth; each of the jaws is furnished with a single row of large and sharp teeth; in the middle of the lower jaw there is one tooth longer than the rest, which falls into a hollow in the upper jaw; and there are two dorsal fins, both deeply forked.

This fish usually measures about ten or twelve inches in length; and its flesh is much admired. It is generally found in the Mediterranean, where it swims in large shoals.

**SUETA.** An appellation by which Bellonius and some other ichthyologists express the *nasus*; a species of cyprinus, according to the Linnæan and Artedean systems; and distinguished by the name of the cyprinus *nasus*, with the snout standing prominent, in form of a human nose, and with fourteen rays in the pinna ani.

**SUKOTYRO.** An obscure Chinese animal, with very large horns, appearing to be the same with the carnivorous bull of Pliny and the ancients. It is said to be about the size of a large ox; its head is shaped like that of a hog; its ears are long and hairy; and its tail is bushy. On one side of the head, near the eyes, it has a large horn, resembling the ivory tusk of the elephant, but not quite so thick. Nieuhoff, who gives this account, adds, that it is rarely caught; and that it feeds on grass; but this observation may possibly have been made without foundation.

However, all that we know of this animal is gathered from a pair of horns, of an enormous size, formerly in the possession of Sir Hans Sloane,

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and of which he transmitted an account to the Academy of Sciences at Paris.

The captain of an East India ship, on seeing these horns, assured Sir Hans, that they belonged to a large species of bull in the East, which he had seen, and which, by his account, seemed to be the same with the creature just mentioned, as described by the ancients; but as none of the modern naturalists have seen it, they in general consider it as a doubtful animal.

**SULA.** An appellation given by some ornithologists to a distinct species of the web-footed aquatic fowl, appearing to be synonymous with the Soland goose, or *Anser basanus*.

**SUMMER FLY.** This insect has a prominent palate; with two feelers on each side, twice as long as the body; and blueish black wings. The body is oblong, and of a dusky brown hue; but the legs are of a dusky greyish black. While in the worm state, it may frequently be seen at the bottom of clear brooks, hid in a case of straw; and, when transformed into a Fly, it quits the water, and flutters about its original place. Mousset mentions one species with four wings, of a brown colour; its body oblong; its tail forked; and its feelers short. However, there are a variety of species belonging to this kind; which leaves sufficient room for curious enquirers to increase the catalogue.

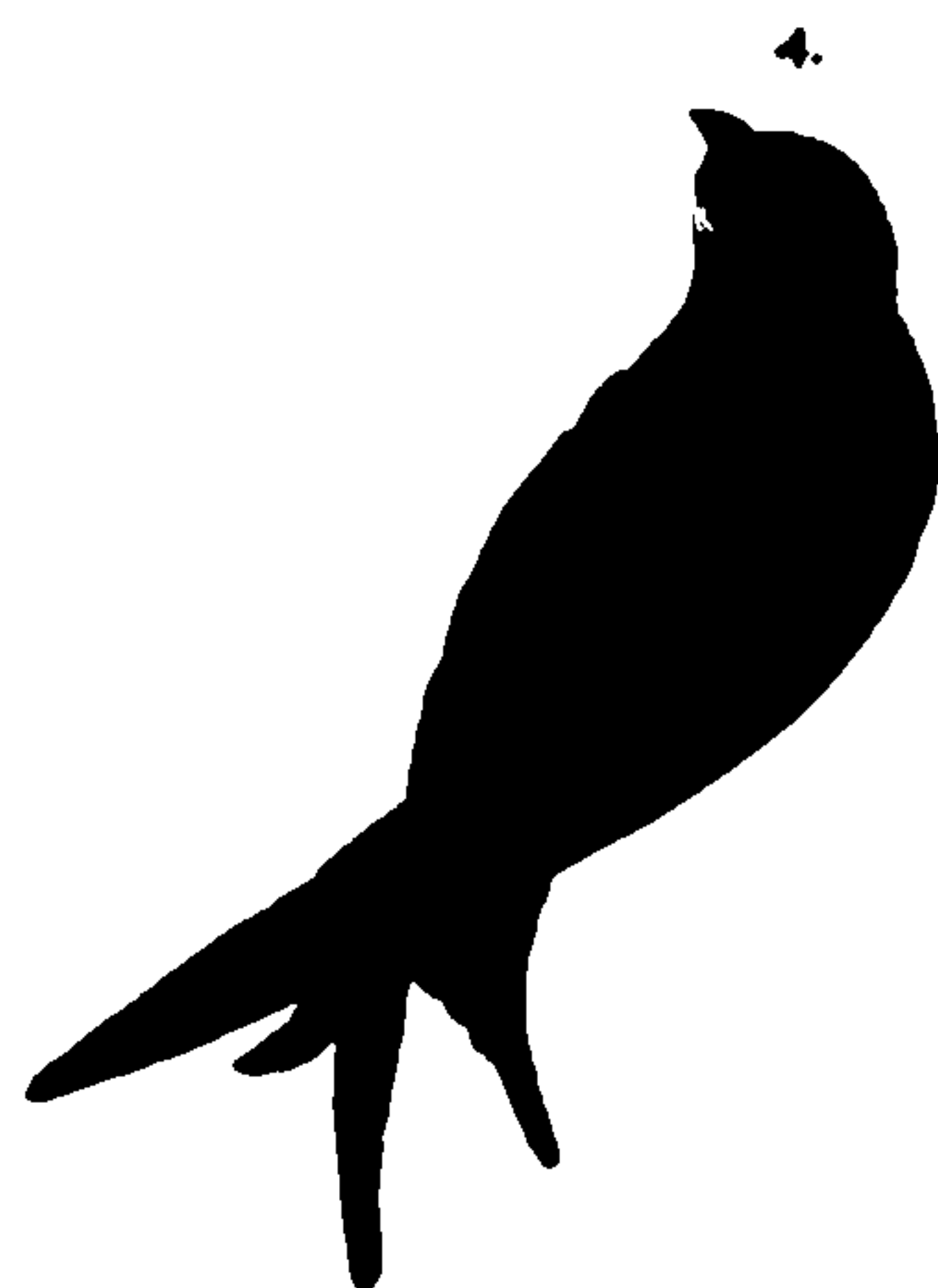
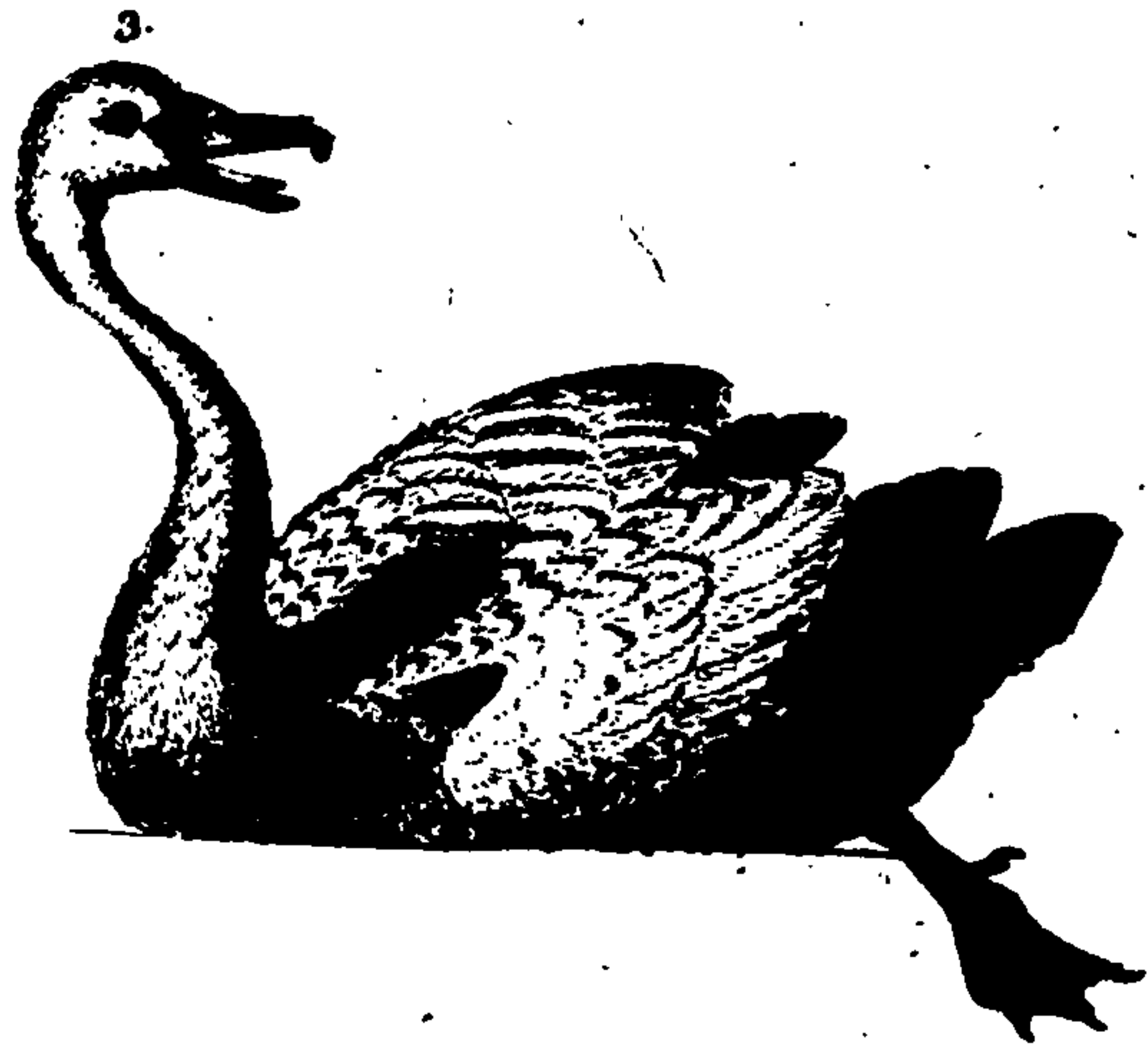
**SUMMER TEAL.** An appellation by which some authors express the smallest of all the duck kind; called *Anas Circias* by Gesner.

**SUN-FISH.** The *Tetraodon Mola* of Linnæus. In the Artedean system, this is a species of ostracion; and in all respects is a very singular creature. Its body is broad and short; and its hinder extremity is terminated by a circular fin, which serves it for a tail; so that it appears like the head of a large fish separated from its body. It is frequently two feet in length; and sometimes much exceeds that size, growing even to two hundred weight. It is destitute of scales; but is covered with a hard, harsh, rough skin. Its back is black; its belly is white; its sides are of an intermediate colour between both; and its back and belly terminate in a narrow edge. The mouth of this fish is very small in proportion to its size; and, when open, exhibits a circular appearance. The jaws are hard, and edged like a knife within: externally, they are very rough, as if beset with several rows of small teeth. The head does not in the least project from the rest of the body; the eyes are very small; and the gills consist of only two elliptic holes, covered with their proper membranes.

The flesh of this animal is very soft; all its bones are gristly and tender; and the skin, which adheres very firmly to the flesh, is separated with difficulty. It is caught in the Mediterranean, and sometimes in the British seas.

Pennant has described the Sun-Fish of Mount Bay, in Cornwall, under the appellation of the oblong drodon. In form, he says, it resembles the bream, or some deep fish cut off in the middle: the mouth, which is very minute, contains in each jaw two broad teeth with sharp edges; the eyes are small, having before each a semilunar aperture; the pectoral fins are also very small, and placed behind them; the dorsal and anal fins are situated at the extremity of the body; and the tail, which is narrow, occupies all that abrupt space between those two fins. The colour of the back





1. SWALLOW. 2. SWAN. 3. WILD SWAN. 4. SWIFT.

5. SWORD FISH.



back is dusky and dappled; the belly is silvery; and between the eyes and the pectoral fins there are streaks pointing downwards. The skin is destitute of scales; and the flesh is uncommonly rank.

Care, says Pennant, must be taken not to confound this with the Sun-Fish of the Irish, which in all respects differs from it. The former, or Tetraodon Mola of Linnæus, which this ingenious naturalist calls the short drodon, differs from the other in being shorter and deeper; the back and anal fins are higher; and the aperture of the gills is not semilunar, but oval.

One of these fish, which weighed five hundred pounds, was taken, about fifty years ago, near Plymouth; and, on boiling a piece of it, in order to try how it would taste, it was found to be entirely converted, in the space of a few minutes, into a perfect jelly. This jelly, in colour and consistence, resembled boiled starch when cold, and had very little of a fishy flavour, but rather an agreeable taste: it stuck firmly to the lips and fingers, appearing remarkably glutinous; and as it is certain the ancients had no other glue than that made from fish, this jelly was tried, as to its sticking quality, both on leather and paper, and was found to answer as well as common paste; but, by some oversight, its adhesive qualities were not tried on wood.

It is probable, however, that a true ichthyocolla might be prepared by boiling down this jelly; and, when an opportunity occurred, which is by no means frequent in this country, it would certainly be worth while to make the experiment.

**SURMULLET**; the *Mullus Cirris Geminis* of Linnæus. This fish was highly valued by the Roman epicures, as may be sufficiently gathered from both Horace and Juvenal, who inveigh against the luxury and extravagance of the age in which they respectively lived. It resembles the mullus barbatus in many respects; but differs from it in being twice as big, and often caught of the length of twelve or fourteen inches. The fins are yellowish, having a slight blush of red mixed with that colour; the scales are large, broad, thick, and very firmly united to the flesh; and it has also three or four straight yellow lines, running down its sides, parallel with each other. It is caught in the Mediterranean and British seas, especially on the Cornish coasts, and is every where esteemed a great delicacy.

Pennant gives this fish the appellation of the Striped Surmullet; but expresses a doubt whether it is not a variety, as Gronovius apprehends, of the red Surmullet, or mullus barbatus.

**SURO**. An appellation by which some authors express the trachurus; a fish of the cuculus kind, bearing a strong resemblance to the mackerel in taste and shape.

**SUS**. See Hog.

**SUS AGRESTIS**. See WILD BOAR.

**SUS PISCIS**. An appellation by which some of the ancient Latinists express the capricus, or goat-fish of the moderns.

**SWALLOW**. A distinct genus of birds of the order of passeres. The characteristics are: that the beak is extremely small, a little bending, pointed, and depressed at the base; and that the opening of the mouth is extremely large. Ray gives the subsequent characters: the head is very large; the beak is very short; the mouth is very wide, and adapted for swallowing large insects,

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which are its proper food; the tail is long and forked; the eggs are white, and it is a bird of passage. Linnæus enumerates twelve species: of which four are natives of England; the *hirundo domestica*, or house-swallow; the *hirundo agrestis*, or martin; the *hirundo riparia*, or sand-martin; and the *hirundo apus*, called the black martin, or swift.

The Swallow tribe may be all easily distinguished by the wideness of their mouths, which are always open when flying. They are equally remarkable for their short, slender feet, and the immoderate length of their wings.

The peculiar conformation of this tribe seems attended with a similar peculiarity of manners. Insects constitute their food, which they always pursue flying: in fine weather, therefore, when these animalcules are most likely to be abroad, Swallows are continually on the wing, pursuing their prey with amazing swiftness and agility. The smaller animals in general find their safety in winding and turning when they endeavour to avoid the greater: thus the lark eludes the hawk, and man the crocodile. Insects on the wing endeavour, in this manner, to avoid the Swallow. But Nature has admirably fitted this bird to pursue them through the shortest turnings: for, besides the uncommon length of its wings, it is provided with a long tail, which, like a rudder, instantly turns it in its most rapid motions.

When Spring begins to rouse the insect tribe from their annual state of torpidity; when the gnat and the beetle put off their earthly robes, and become denizens of the sky; the Swallow returns from its long migration beyond the ocean. At first, it seldom makes its appearance, and flies heavily and feebly; but, as the weather grows warmer, and the number of insects increases, it acquires additional activity and strength. A rainy season, indeed, by repelling the insects, stints the Swallow in its food; it is then observed to skim slowly along the surface of the ground, and frequently to rest after a flight of a few minutes: in general, however, it keeps on the wing, moving with extreme rapidity. When fair weather commences, the insect tribes feel the genial influence, and make bolder flights: the Swallows pursue them in their aerial journies, and often rise to imperceptible heights in the pursuit. Of the approach of foul weather, however, insects seem to have immediate intelligence; and, from the Swallows pursuing them near the earth, man is generally apprized of the change that will speedily ensue.

Among naturalists, three opinions have been formed and defended by their respective adherents with regard to the manner in which the Swallow tribes dispose of themselves after they have forsaken those countries which afforded them a residence in summer. Herodotus mentions one species which resides in Egypt the whole year; Prosper Alpinus, in his History of Egypt, asserts the same; and Mr. Loten, late governor of Ceylon, affirms that those of Java never migrate. These excepted, every other kind we have heard of observes a periodical migration or retreat. The Swallows of Norway, North America, Kamtschatka, the temperate parts of Europe, of Aleppo, and Jamaica, all agree in this one particular; of which natural historians furnish us with the most unquestionable proofs.

A defect of insect food on the approach of winter,



ter, in cold climates, appears to be a sufficient reason for the Swallow tribes quitting them: but since it is probable that the same cause does not subsist in warm countries; recourse should be had to some other plausible reason for their disappearing. Of the three opinions propagated by naturalists, the first seems to carry the greatest degree of probability along with it; namely, that they remove nearer the sun, where they can procure a continual supply of their natural food, and a temperature of air adapted to their constitutions. Mr. Adanson has proved beyond contradiction, that this is the case with respect to some species of American Swallows: they are often seen assembled in flocks innumerable, on churches, rocks, and trees, previous to their departure thence. And Mr. Collinson proves their return here in equal numbers, by two curious experiments of undubitable credit; the one communicated to him by Mr. Wright, master of a ship; the other by Sir Charles Wager; who both described what happened to each during their respective voyages. Their accounts being virtually the same, we shall only adduce that of Sir Charles Wager. 'Returning,' says he, 'in the spring of the year, as I came into soundings in our channel, a great flock of Swallows came and settled on all my rigging; every rope was covered; they hung on one another, like a swarm of bees; the decks and carvings were filled with them. They seemed almost famished and spent, and were only feathers and bones; but being recruited with a night's rest, took their flight in the morning.' This vast fatigue is an absolute proof that their journey must have been very long, considering the amazing swiftness of these birds: it is therefore probable they had crossed the Atlantic Ocean, and were returning from the shores of Senegal, or some other parts of Africa.

A gentleman named White, whose veracity appears unquestionable, in the year 1768 had an ocular proof of what may be reasonably supposed to amount to an actual migration of Swallows. Travelling very early, on the morning of Michaelmas-day, near the sea-coast; at the beginning of his journey he was surrounded by a thick fog; but, on a large wild heath, the mist began to break, and discovered to him numberless clusters of Swallows perched on the standing bushes, as if they had roosted there. As soon as the sun burst out, they were instantly on the wing; and, with an easy and placid flight, directed their course towards the sea; after which only a few stragglers were to be seen.

This rendezvous of Swallows, about the same time of the year, is observed by Pennant to be very common on the willows in the islets of the Thames; where, in less than half an hour, fifty dozen have been caught by torch-light.

The second opinion has the sanction of antiquity for its support. Aristotle and Pliny think that Swallows do not remove to any great distance from their summer habitations, but repose during winter in the hollows of rocks, and lose their plumage at that period. Many ingenious gentlemen have adopted the former part of their opinion; and several testimonies have lately been produced that some species at least have been discovered in a torpid state. The honourable Mr. Daines Barrington, a few years ago, communicated the following fact to Mr. Pennant, on the authority of the late Lord Belhaven—that num-

bers of Swallows have been found in old dry walls, and sand-banks, near his lordship's seat in East Lothian; not once only, but from year to year; and that, on being exposed to the warmth of a fire, they revived. This circumstance is confirmed by similar observations in different places of this kingdom, by persons of whose veracity it would be illiberal to doubt.

The subsequent account of some Swallows on the Rhine, by Mr. Achard, was communicated by Mr. Peter Collinson, and read before the Royal Society, in 1763.

'In the latter end of March,' says Mr. Achard, 'I took my passage down the Rhine to Rotterdam. A little below Basil, the south bank of the river was very high and steep, of a sandy soil, sixty or eighty feet above the surface of the water.'

'I was surprised at seeing, near the top of the cliff, some boys, tied to ropes, hanging down, doing something. The singularity of those adventurous boys, and the business they so daringly attempted, made us stop our navigation to enquire into the meaning of it. The watermen told us, they were searching the holes in the cliff for Swallows or martins, which took refuge in them, and lodged there all the winter, till warm weather, and then they came abroad again.'

'The boys, being let down by their comrades to the holes, put in a long rammer, with a screw at the end, such as is used to unload guns; and twisting it about, drew out the birds. For a trifle I procured some of them. When I first had them, they seemed stiff and lifeless. I put one of them in my bosom, between my skin and shirt; and laid another on a board, the sun shining full and warm on it; and one or two of my companions did the like.'

'That in my bosom revived in about a quarter of an hour. Feeling it move, I took it out to look at it, and saw it stretch itself on my hand; but perceiving it not sufficiently come to itself, I put it in again. In about another quarter, feeling it flutter pretty briskly, I took it out, and admired it. Being now perfectly recovered, before I was aware, it took flight: the covering of the boat prevented me from seeing whither it went. The bird on the board, though exposed to a full sun, yet, I presume, from a chillness of the air, did not revive so as to be able to fly.'

Such is Mr. Achard's account; on which the following observations were made by Mr. Collinson.

'What I collect from this gentleman's relation is, That it was the practice of the boys annually to take these birds, by their apparatus, and ready method of doing it; and the frequency of it was no remarkable thing to the watermen. Next, it confirmed my former sentiments, that some of this Swallow tribe go away, and some stay behind in these dormitories all the winter. If my friend had been particular as to the species, it would have settled that point.'

We cannot withhold our assent from the above circumstances, though seemingly contradictory to the common course of nature in respect to other birds: and must therefore divide our belief respecting these two very different opinions; and conclude that some Swallows emigrate, while others take up their winter-quarters at home.

The third notion would be too chimerical and unnatural to merit the least attention, were it not that some of the learned have been credulous enough



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enough to assert as fact what has the strongest appearance of impossibility; we mean, the relation of Swallows passing the winter under ice, at the bottoms of lakes, or lodged beneath the water of the sea at the foot of rocks. The first who started this romantic idea, was Olaus Magnus, archbishop of Upsal, who gravely informs us, that these birds are often found in clustered masses at the bottoms of the Northern lakes, mouth to mouth, wing to wing, and foot to foot; and that in autumn they creep down the reeds to these subaqueous retreats: that when old fishermen lay hold of such a mass, they throw it again into the water; but when young inexperienced fishers perceive one, they place it near the fire; which indeed brings the animals to the use of their wings, but continues for a very short time, owing to a premature and forced revival.

To prevent an implicit assent to an authority apparently so respectable, let it be remarked; that our pious bishop does not seem destitute of faith; for, after having stocked the bottoms of the lakes with birds, he stores the clouds with mice, which sometimes fall in plentiful showers in Norway, as well as the neighbouring countries.

Some of our countrymen have given credit to the submersion of Swallows; and Klein, who strongly patronizes the doctrine, gives us the following history of their manner of retiring, which he learned from some countrymen. They asserted, that Swallows sometimes assembled in numbers on a single reed, till it broke, and sunk with them to the bottom; and that their immersion was preluded by a dirge of a quarter of an hour's length: that some would unite in laying hold of a straw with their bills, and so plunge down in conjunction; and that others would form a large mass; by clinging together with their feet, and so commit themselves to the deep.

Such are the relations of those who are attached to this opinion; and though their own proofs are fairly stated, the account can scarcely fail of having a risible effect. The advocates for the immersion of Swallows assign not the smallest reason that can account for their being able to endure so long a continuance under water, without being suffocated, or decaying, in an element so unnatural to birds of such a delicate frame. It is well known that the otter, the cormorant, and the grebes, soon perish, if caught under ice, or entangled in nets: how then is it possible that the Swallow, a bird which nature has in no respect adapted for an aquatic life, should be able to continue for months under water? and what vivifying principle can again recal it to existence?

**SWALLOW, COMMON**, called also the House or Chimney Swallow; the *Hirundo Rustica* of Linnæus. This species is distinguished from all others by the extreme forkiness of it's tail, and a red spot on the forehead and under the chin. The crown of the head, the upper part of the body, and the coverts of the wings, are black, glossed with a rich purplish blue. The breast and belly are white, tinged with red. The tail is black; and the two middle feathers are plain, the others being transversely marked with a white spot near their extremities. The tongue is short, broad, and yellowish; of which colour likewise is the palate; but the other parts of the mouth are blackish. The eyes are large; and the irides are hazel-coloured.

This bird builds it's nest on the tops of chim-

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nies with great industry and art; and lays five or six white eggs, speckled with red. It sometimes breeds twice a year: this happens when the parent birds arrive early; which is always regulated by the mildness of the season. Sometimes, however, it finds a difficulty in rearing even a single nest, especially when the weather has been severe, or the nest has met with any accident.

The Common Swallow arrives in Great Britain about twenty days before the other species of the same genus which visits us; and it leaves us about the latter end of September. It has a pleasing note, which it puts forth in August and September, perching on the tops of houses.

**SWALLOW, CHINESE**; the *Hirundo Esculenta* of Linnæus. This bird resembles the common Swallow in shape; and during the season of incubation quits the inland parts of the country, and proceeds to the sea-side, where it builds a very extraordinary kind of nest, reckoned one of the most delicious viands in China. These nests, which are sometimes preserved after the manner of sweetmeats, and sent over to Europe as great curiosities, are composed of certain clammy, glutinous substances, collected from the surface of the sea; in which the Swallow lays it's eggs; and produces it's young.

We have no particular description of those birds; but the Chinese carry on a considerable trade with their nests in many parts of the East Indies. They are each about the size of a goose egg; and of a substance resembling isinglass. It is customary to dissolve one of them in broth, when it constitutes a sauce preferable to any that can be produced.

**SWALLOW, AMERICAN**; the *Hirundo Americana* of Linnæus. According to Catesby, the top of the throat of this species is of a brownish black colour; and the extremities of the tail-feathers are pointed.

These birds quit Virginia and Carolina, and return about the same season of the year as the English Swallows. Catesby supposes that they pass to the southern regions on the approach of winter; and that they are properly denominated Brazilian Swallows.

**SWALLOW, SEA**; the *Hirundo Marina*, or *Pratincola*, of Linnæus. This is a large species. The belly is entirely white; the head and back are of a dusky brown hue; the wings and tail are long and blackish, but a little brownish underneath; and the tail is forked. The beak is black and strong; and the mouth is very wide, and red within. A black line forms a kind of ring round the throat, passing by the eyes to the ears; and the legs are of a reddish lead-colour.

**SWALLOW, SEA**, is also an appellation by which some authors express the *Sterna Hirundo* of Linnæus.

**SWALLOW, WATER**. An appellation given by some ornithologists, though improperly, to the northern colymbus, more generally denominated the lumme.

**SWALLOW-FISH**. A marine fish of the trigla kind, remarkable for the size of it's gill-fins. In Cornwall it obtains the appellation of the tub-fish. See **SAPPHIRINE GURNARD**.

**SWALLOW-FLY**. An appellation by which some authors express the chelidonus, a fly very remarkable for the long continuance and rapidity of it's flight.

**SWAN**. A species of the anas or duck kind in



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in the Linnæan system; of which there are two varieties, the wild and the tame Swan.

**SWAN, WILD;** the *Anas Cygnus Fervus* of Linnæus. These birds frequent our coasts in large flocks when the severity of the winter drives them from the hyperborean regions; but we have not learnt whether they ever breed in Great Britain. We are informed by Martin, that in October they resort in great numbers to Lingay, one of the Hebrides, where they continue till March, and then retire more northward to breed. These, like most other water-fowl, prefer for that purpose those places which are least frequented by mankind: the lakes and forests of Lapland are therefore filled, during the summer season, with myriads of water-fowl, which in autumn return to us, and to other more hospitable shores.

The Wild Swan is less than the tame by almost one fourth part; the former weighing but sixteen pounds, the latter upwards of twenty. The tame Swan is entirely white; but the Wild Swan is of an ash-colour along the back, and on the tips of the wings; the eye-lids are bare and yellow; and the legs are dusky. The cry of the Wild Swan is very loud, and may be heard at a great distance; from which circumstance it sometimes receives the appellation of the hooper.

**SWAN, TAME;** the *Anas Cygnus Mansuetus* of Linnæus. The Swan was considered as a high delicacy among the ancients; but the goose was abstained from as totally indigestible. Modern manners, however, have inverted tastes as well as opinions: the goose is now become the favourite of epicures; and the Swan is seldom brought to table, except for the purpose of ostentation.

The Swan is the largest of British birds. It is distinguished from the wild breed by its size, which is much larger; and by its bill, which in the tame bird is red, and the tip and side are black. A callous knob projects over the base of the upper chap. In old birds, the whole plumage is white; but in young ones, ash-coloured; and the legs are dusky.

This bird lays seven or eight white eggs, which it is nearly two months in hatching. Its chief food consists of herbs growing in the water, roots and reeds near the margin, and sometimes insects.

No bird makes a more inelegant figure on land, or a more beautiful one in water, than the Swan. When it ascends from its favourite element, its motions are awkward, and its neck is stretched forward with an air of stupidity; but when it is seen smoothly sailing along the water, commanding a thousand graceful attitudes, and moving at pleasure, without the smallest effort, there is not perhaps a more beautiful figure in nature. In the exhibition of its form, there are no broken or harsh lines; no constrained or catching motions; but the roundest contours, and the easiest transitions: the eye wanders over every part with insatiable pleasure, and every member assumes new grace with new motion.

It is extremely difficult to reconcile the accounts of the ancients with the experience of the moderns, concerning the vocal powers of this bird. The Tame Swan is one of the most silent of animals; and the wild Swan has a loud, harsh, and disagreeable note. In neither is there the smallest degree of melody; nor have they, for more than a century, been said to afford the smallest specimen of musical abilities: yet, notwithstanding this, it was the general opinion of antiquity, that

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the Swan was a most melodious bird, and that, even to its death, its voice continued to improve. It would evince but a small share of learning to produce what they have said on the music of the Swan: it has been already collected by Aldrovandus, and still more professedly by the Abbe Gell. From these accounts it appears, that while Pliny, Aristotle, and Diodorus Siculus, believed the vocal powers of the Swan; Pliny and Virgil seem to doubt that received opinion. In this equipage of authority, Aldrovandus seems to have decided in favour of the Greek philosophers: and the structure of the windpipe in the wild Swan, so much resembling a musical instrument, inclined his belief still more strongly. Add to this the testimony of Pendasius, who affirmed, that he had often heard Swans singing sweetly on the banks of Mantua. Also that of Olaus Wormius, who professed that many of his pupils and friends had heard them singing. 'There was,' says he, 'in my family, a very honest young man, John Pastorph, a student in divinity, and a Norwegian by nation. This man did, upon his credit, and with the interposition of an oath, solemnly affirm, that once, in the territory of Drontheim, as he was standing on the sea-shore early in the morning, he heard an unusual and sweet murmur, composed of most pleasant whistlings and sounds. He knew not at first whence they came, or how they were made; for he saw no man near to produce them; but looking round about him, and climbing to the top of a certain promontory, he there espied an infinite number of Swans, gathered together in a bay, and making a most delightful harmony, sweeter than which he had never heard in his life.'

These are relations sufficient at least to keep opinion in suspense, though in contradiction to our own experience. But Aldrovandus, in order to put, as he supposed, the question past all doubt, gives us the testimony of an Englishman, to whom he seems himself to have given implicit faith. This impostor assured him, that nothing was more common in England than to hear Swans sing, that they were bred in great numbers in the lake near London; and that every fleet of ships that returned from distant voyages, were met by Swans, which came joyfully out to welcome their arrival, and salute them with a loud and a cheerful song. In this manner was that great and benevolent man imposed on: his unbounded curiosity drew people of every description round him, and his generosity was unhappily as ready to reward falsehood as truth. After expending an ample fortune for the purpose of enlightening mankind, he lived to experience their ingratitude: neither his former beneficence, nor the useful application of those splendid talents which Nature had conferred on him, could insure relief to him in the hour of adversity; for he at last paid the debt of nature in a public hospital. Foreign as this digression may appear to our subject, the benevolent and the feeling, we doubt not, will join us in the tear of sensibility; and should the morose and unfeeling be disposed to criticise, they must extort our pity!

It is probable that the ancients had some mythological meaning in ascribing melody to the Swan; and as to the moderns, it may easily be discovered, from the relations already produced, how little credit is due to their testimonies. The ancients, however, held a still more singular opinion; they imagined that the Swan foretold its



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own death. This is doubtless a poetic flight: and as to their being supposed to sing more sweetly at the approach of death, the cause is beautifully explained by Plato, who attributes that unusual melody to the same sort of extacy that good men are sometimes said to enjoy at that awful hour, foreseeing the joys which await them when entering on immortality.

All the stages of the Swan's approach to maturity are slow, and seem expressive of its longevity. Pliny observes, that those animals which continue longest in the womb, are the longest lived: the Swan remains the longest in the shell of any bird we know; and does not arrive at its proper size in less than twelve months. It is said to live three hundred years; and Willughby, who is not reckoned very credulous, is inclined to believe the assertion. A goose, as he justly observes, has been known to live an hundred years; and the Swan, being a larger bird, and its flesh of a firmer texture, may naturally be supposed to live much longer.

Swans were formerly so much valued in this kingdom, that by an act of Henry IV. no person, except the king's son, was permitted to keep a Swan, unpossessed of a freehold of five marks a year. And by a statute made in the reign of Henry VII. the punishment for taking their eggs was imprisonment for a year and a day, besides a fine at the king's pleasure. At present, they are less valued for the delicacy of their flesh; but great numbers of them are still preserved for their beauty. Abundance of them may be seen on the Thames and the Trent; and particularly on the salt-water inlet of the sea near Abbotsbury, in Dorsetshire.

The ancients consecrated the Swan to Apollo and the Muses, on account of its fancied melody. It was also dedicated to Venus, probably because of its extreme whiteness and elegance; and is frequently yoked in the car of that goddess.

**SWIFT**; the *Hirundo Apus* of Linnæus. A bird of the Swallow kind, and the largest of the genus which visits this isle. The expansion of its wings is nearly eighteen inches, and its length is eight. Its feet are so small, that the actions of walking and rising from the ground are attended with extreme difficulty; but Nature has made ample amends for this inconvenience, by furnishing it with the means for an easy and continued flight. It is more on the wing than any other swallow, and its flight is more rapid. It rests by clinging to some wall; and from hence Klein calls this species *Hirundo Muraria*. It breeds under the eaves of houses, in steeples, and other lofty buildings; builds its nest of grass and feathers; and lays only two eggs, of a whitish colour.

This bird is entirely of a glossy dark sooty colour, except the chin, which is marked with a white spot: but, by being constantly exposed to all weathers, the gloss of its plumage is lost before it retires.

The Swift makes its appearance in this country some time after the common swallow; and invariably retires about the tenth of August, being the first of the genus that emigrates. As it is almost continually on the wing, it in a great measure answers the fabulous history of the bird of Paradise, which was formerly believed to have no feet, to live on celestial dew, to float perpetually on the air, and to perform all its functions in that

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element. In fact, except the small time the Swift allots to sleep, and the necessary duty of incubation, every other action is performed in the air. It collects the materials for its nest either as they are wafted about by the winds, or picks them up from the surface of the earth in its sweeping flight. Its food unquestionably consists of the minute breed of insects which people the aerial regions; its drink is taken in transient sips from the water's surface; and even its amorous concerns are performed on high.

Few persons, who have attended to these birds in a fine summer's morning, can have failed to observe them encircling a certain space with an easy, steady motion: on a sudden they fall into each other's embraces; and then drop precipitate, with a loud shriek, for numbers of yards. This is the critical conjuncture; and in this circumstance they resemble the insect tribes.

Swifts delight in sultry, thundery weather; which seems to give them fresh spirits. During such seasons they fly in small parties with particular force; and as they pass near steeples, towers, and other edifices, where their mates are performing the office of incubation, emit a loud scream, by way of serenade to the females.

**SWIFT** is also an appellation by which some authors express the newt, or eel.

**SWIT**. A name by which the natives of the Philippine Islands denominate a very small species of the humming-bird kind, very common in those climates. Its colours are said to be extremely beautiful; and it lives on the honied dew of flowers.

**SWORD-FISH**. A genus of fishes of the order of apodes. According to Linnæus, its characters are these: the membrane of the gills has eight bones; the point or extremity of the snout is ensiform; and the body is taper, and without scales. There is only one species, the *xiphias gladius*.

Artedi gives the subsequent characters of this genus: the branchiostegic membrane on each side contains eight bones; the snout is extended into a very long and depressed point, resembling a sword, and of a bony substance; the body is oblong and roundish; the dorsal fin is small, and very low in the middle; and there are no ventral fins. The air-bladder is remarkably long; and the anus is situated near the tail.

This fish grows to a very considerable size, sometimes weighing one hundred pounds. Its body is long and rounded, largest near the head, and tapering by degrees towards the tail. The skin is pretty rough; the back is black; and the belly is of a silvery white colour. The mouth is of a moderate size; the upper jaw is extremely long; but the under is much shorter, and terminates in a sharp point. The dorsal fin runs almost the whole length of the body; the tail is remarkably forked; and there is one pair of fins at the gills, but none on the belly.

The Sword-Fish is common in the Mediterranean and some other seas; nor is it an entire stranger to those of Britain. Its flesh is esteemed very delicate.

Strabo gives us a particular description of the mode of taking this fish, which exactly agrees with the practice of the moderns. One person ascends a cliff that overhangs the sea; and as soon as he spies the fish, gives notice of the course it takes. Another, stationed in a boat, climbs up the



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the mast; and on seeing the Sword-Fish, directs the rowers towards it. As soon as he thinks they are got within reach, he descends, and taking a spear in his hand, strikes it into the fish, which, after wearying itself with it's agitation, is seized, and dragged into the boat.

The Sword-Fish is much esteemed by the Sicilians, who frequently purchase it at the rate of sixpence a pound. It is said to be extremely voracious; and a great enemy to the tunny, which, according to Bellonius, shuns it with as much terror as a flock of sheep avoid a wolf.

**SYCABIS.** An appellation by which some ornithologists express the atricapella, or black-cap; a small bird well known in England.

**SYNAGRIS.** A fish caught in the Archipelago, and some other seas; a species of the sparus in the Artedian system, distinguished by that author under the appellation of the sparus with a sharp back, and four large teeth. Linnæus also makes it a species of sparus, with a bifid red tail,

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a purple body, and seven gold-coloured lines on each side.

**SYNGNATHUS.** A genus of fishes of the order of nantes, and class of amphibia. The characters are these: the coverings of the gills on each side are composed of a thin and single bony lamella; the head is oblong and compressed; the jaws are closed up at the sides; and the mouth is capable of being opened at the extremity of the snout only, which is cylindric, and covered by the lower jaw. The body is long, and very slender; the shape is somewhat roundish, but more usually angular; and there are no ventral fins.

Artedi enumerates four species of this genus; and Linnæus seven; among which are the pipe-fish, the hippocampus, ophidion, and typhle.

**SYNODON, or CYNODON.** An appellation by which several ichthyologists express a fish caught in the Mediterranean; more commonly known by the name of dentex. It is a species of the sparus in the Linnæan system.

## T.

**TABANUS, the Ox-Fly.** In the Linnæan system of zoology, a genus of the diptera order of insects: the characters of which are; that the mouth has a fleshy proboscis, terminated by two lips; and two subulated palpi, placed sideways; and parallel to the proboscis. Linnæus enumerates nineteen species.

**TABBY.** A variety of the common cat, so called from the beautiful manner in which it is streaked.

**TACHAS.** An appellation by which some naturalists express the manati, or sea-cow.

**TADORNA;** the Anas Tadorna of Linnæus. A name by which some ornithologists express that species of duck known in England by the appellation of the sheel-drake, or borough-duck.

This bird frequents the sea-coasts, where it lodges in deserted rabbit-holes. It lays fifteen or sixteen white roundish eggs: and attends to the preservation of it's young with the most diligent care; at the same time evincing a very considerable degree of sagacity. It's flesh is rank and ill-flavoured. See Duck.

**TADPOLE.** An appellation by which the frog, in it's nascent state, is generally known. See Frog.

**TÆNIA.** A fish of the anguilliform kind, common in the Mediterranean. It is of a pale flesh colour, with an admixture of blue; entirely destitute of scales; and it's flesh so extremely transparent, that the vertebræ of the back-bone may be easily counted through it. The body terminates in a long and very slender tail; the mouth is small, and furnished with a single row of sharp teeth in each jaw; the ventral fin is twice as large as the dorsal, and runs such a way up towards the head, that the anus, which is situated at it's termination, is very near the angle of the under jaw; and the intestines are all covered with a silvery

peritoneum, which is also plainly distinguished through the flesh. This fish is usually about a foot long, and the breadth of a finger.

**TÆNIA** is also a genus of the zoophyte order of worms, in the Linnæan system; including four species. See TAPE-WORM.

**TÆNIA CORNUTA.** An appellation by which many authors express a species of the cobitis; denominated by Artedi the cobitis with a forked prickle placed under each eye. This fish is the Cobitis Tænia of Linnæus.

**TAJAN DEVIL.** A name given by the Dutch to a lizard found in the island of Formosa: but for what reason it has received this singular appellation, we know not, unless from the sharpness of it's claws. It is about an ell long, and twenty inches broad; with scales like a fish; and so extremely harmless, that it will sooner die than make any resistance. It feeds on pismires; and avoids the human race with the most fearful circumspection.

**TAJACU;** the Sus Tajacu of Linnæus. An American animal, called also aper moschiferus, or the musk-boar, and the pecary. It is shaped somewhat like our hog, but is much smaller, and destitute of a tail. It has a very singular aperture on the ridge of the back near the rump, from which proceeds a strong-smelling liquid substance, of a brownish yellow colour.

This creature inhabits the hottest parts of South America, and some of the Antilles; and frequents mountains covered with wood, where it feeds on fruits, roots, toads and serpents. It is very savage in it's nature; and when wounded will turn on the hunters. It's flesh is much esteemed; but unless the dorsal gland which supplies the odoriferous liquid is immediately extirpated, the flesh becomes tainted in a few minutes after it is killed. See PECARY.

**TAIBI.**



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**TAIBI.** An American animal, described by Marcgrave, and some other authors; but generally supposed to be only the male opossum.

**TAIPARA.** The Brazilian appellation for a species of parroquet common in that country. It is about the size of a lark; the whole body is of a pale green colour; the tail is short; the beak is red; and the legs are grey. Near the origin of the beak there is a semilunar red spot; and on the middle of each wing there is a yellow spot.

According to Marcgrave, this bird builds in trees, in the deserted abodes of ants.

**TAINHA.** An appellation by which some authors express a species of mullet, commonly caught in the American seas, more usually denominated curema.

**TALABONG.** A Philippine appellation for a species of heron common in those islands; entirely white; and considerably less than the European heron.

**TALAPOIN.** A species of monkey, so called by Buffon. It is distinguished from the other species by its beautiful variety of green, white, and yellow hair; as well as by that under the eyes, which is of a greater length than the rest. This animal is generally supposed to be confined to the African and Oriental climates.

**TALBOT.** A sort of dog, remarkable for its quick scent, and for pursuing its game in continual cry.

**TALPA.** The classical appellation for the mole.

**TAMANDUA;** the Ant-Bear, or Ant-Eater. This animal has a very long and sharp snout; and its tongue is slender, and capable of prodigious extension. It has no teeth; the body is covered with hair; and from the neck, across the shoulders to the sides, there is a black line, bounded above with white. The tail is about thirty inches long, and covered with black, coarse hair, almost a foot long.

This creature is the *Myrmecophaga Jubata* of Linnæus, with four toes on the fore-feet, and five on the hinder ones; and is a native of Brazil, and the country round the Cape of Good Hope.

Ants compose the principal food of the Tamandua. It catches them by means of its tongue, which is extended as a lure; and, when covered with these insects, hastily drawn into its mouth.

Though this animal is destitute of teeth, it is nevertheless fierce and dangerous. It sleeps by day, and preys by night. Its flesh has a strong and disagreeable taste; but is eaten by the Indians.

The Lesser Tamandua, or *Myrmecophaga Tetradactyla* of Linnæus, inhabits the same regions as the former; and resembles it in its manners. The Least Tamandua, or *Myrmecophaga Didactyla* of Linnæus, is by Buffon denominated Four-millier.

Linnæus also enumerates another species, which he describes under the appellation of the *Myrmecophaga Tridactyla*. It is a native of the East Indies; and seems to resemble the rest of the genus in its disposition and appetites.

**TAMATIA.** A very singular Brazilian bird, appearing to be a species of cancoroma; the *Cancoroma Canchrophaga* of Linnæus. The head is very large; the eyes are full and black; the beak is shaped somewhat like that of a duck, but pointed at the extremity; the upper chap is black; and the under yellow. The legs and toes are long; the thighs are chiefly naked; and the tail

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is very short. The head is black; the back and wings are of a plain dusky brown hue; and the belly is also of the same colour, variegated with white.

**TAMIS BIRD.** An appellation by which some authors express the pintada, or Guinea hen.

**TAMOATA.** An American fresh-water fish, denominated Soldido by the Portuguese. It is of a small oblong figure; with a flat head, somewhat like that of a frog. The mouth is small; and from each angle of it depends a long single filament, by way of a beard. It is destitute of teeth; and the eyes are extremely small. The fins are eight in number: two at the gills, of the length of a finger, hard, and firm, like horns; two on the belly, of a softer substance; one on the middle of the back; another near the tail; a small one opposite to it, on the belly; and the tail constitutes the eighth. The whole head is covered above with a hard coat like a shell; and the body with a sort of coat of mail composed of oblong, hard, squamose bodies, dented at their edges.

The flesh of the Tamoata is esteemed delicate: It lives in fresh-water rivers only; and when the water in which it resides accidentally dries up, it is said to crawl out on the dry land, and to go in quest of more.

**TANAGRA.** A genus of passerines: the characters of which are; that the bill is conic, and a little inclining towards the point; the upper mandible slightly ridged, and notched near the extremity. Linnæus enumerates twenty-four species.

Birds of this genus inhabit North and South America; but are most common in the latter. To this tribe belong the jacapu, jacarini, teitei, sayacu, and others, described by Marcgrave.

**TANT.** An English appellation for a small spider of the opilio kind, having only two eyes, and eight very long legs; commonly supposed to be very venomous. It is entirely of an elegant scarlet colour, resembling that of the flowers of the red poppy when full blown, except that the belly has a whitish cast.

These insects are common in dry pastures during the spring; and farmers entertain a notion; that if an ox should swallow one of them, he would instantly die.

**TANTALUS.** A genus of the order of grallæ, in the Linnæan system. Its characters are: the bill is long, thick at the base, and wholly incurvated; the face is naked; the tongue is short and broad; the nostrils are linear; and the feet, with four toes, are palmated at the base.

Linnæus enumerates seven species, of which the Egyptian ibis constitutes one.

**TAPAYAXIN.** An American appellation for a very remarkable species of lizard, called by Hernandez the *Lacertus Orbicularis*. It is nearly as broad as long; and in shape pretty nearly resembles the ray-fish, though seldom exceeding four inches in length or breadth. It possesses a very beautiful variety of colours. The head is exceedingly hard and elate, and has a sort of prickly crown for its defence: nevertheless, the animal is perfectly innocent; and seems attached to mankind, as it delights to be handled by them.

**TAPE-WORM.** A species of worm which breeds in the human bowels; and is called by authors tænia, and lumbricus latus, or the broad worm.

According to the Linnæan system, it constitutes



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tutes a genus of the order of zoophytes, in the class of worms: the characters of which are, that the body is jointed in form of a simple chain; and that each joint has it's appropriate mouth, viscera, and other parts. This genus includes four species.

**TAPECON.** An appellation by which some authors express the fish more generally denominated the uranoscopus, or star-gazer.

**TAPERA.** A word, according to some ornithologists, signifying a species of swallow.

**TAPETI.** An American animal, sometimes denominated cuniculus Americanus, or the American rabbit. In the Linnæan system, it is a species of hare, the *lepus Braziliensis*. It has large ears, like the common hare; a white ring round the neck, though not always; the face is of a reddish colour; the chin is white; the eyes are black; the colour of the body resembles that of the common hare, except that it is somewhat darker; and it has no tail.

These animals inhabit the woods of Brazil, but never burrow; are very prolific; and their flesh is highly esteemed. They are also found in Mexico, where they obtain the name of citli.

**TAPIIR;** the *Hippopotamus Terrestris* of Linnæus. This animal is about the size of a young calf; and in shape somewhat resembles the hog, with an arched back. The head, which is thicker than that of the hog, terminates in a sharp ridge at the top. The male has a snout, or sort of proboscis, hanging over the opening of the mouth; in which there is a very strong muscle, that serves to retract it at pleasure. The nose of the female is destitute of a proboscis; and the jaws are of equal lengths. There are ten dentes incisores in each jaw; from the end of these the jaw seems toothless for a small space; and the grinders, which are large, are arranged five on each side. The eyes are small, like those of a hog; and the ears, which are roundish, bordered with white, the creature can draw forward at pleasure. The legs are thick and short; the fore hoofs are divided into three portions, and a sort of false hoof behind; but the hind have only two divisions. The hair is short, and of a pale brown colour variegated with white spots, when the animal is young; and along the neck there is a bristly mane, an inch and a half high.

The Tapiir inhabits the thick woods situated on the eastern side of South America, from the Isthmus of Darien to the River of the Amazons; sleeping all day, and roving abroad in the mornings and evenings in quest of food. It subsists on vegetables; and is particularly fond of the stalks of the sugar-cane. It often takes the water, swimming with the utmost facility. The natives eat it's flesh; and the Indians shoot it with poisoned arrows; and cut it's skin into bucklers.

The Tapiir is salacious, slow-footed, and sluggish; and makes a kind of hissing noise. In Guiana it is sometimes domesticated, and fed with other animals in the farm-yard. Though generally accounted mild in it's disposition, Gumilla asserts, that it makes a vigorous resistance when attacked; and seldom fails to tear off the skins of such dogs whom it happens to seize.

**TARABE.** A Brazilian species of parrot, considerably larger than the common green parrot. It is generally of a vivid green colour; but the head, breast, and origin of the wings, are red; and the beak and legs are dusky grey.

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**TARAGUICO AYCURABA.** A Brazilian appellation for a species of lizard common in that country. The tail is covered from it's beginning with small triangular scales, and very regularly marked with four brown spots; the back also, particularly that part next the head, is variegated with undulated brown lines.

**TARAGUIRA.** An American lizard, about one foot in length, of a rounded body, and every where covered with small triangular dusky grey scales. It's back is smooth; and it is furnished with a false gullet under the throat.

This animal is very common about houses and gardens in South America. It runs very swiftly, but with a waddling motion; and when it perceives any object at a distance, has a peculiar way of shaking it's head.

**TARANDUS.** An appellation by which Agricola, and some other naturalists, express the rein-deer.

**TARANIOLO.** A name given by some ornithologists to the whimbrel, or small curlew; the *arquata minor* of authors.

**TARANTULA;** the *Aranea Tarantula* of Linnæus. A species of venomous spider; so called from Tarentum in Apulia, where it is chiefly found.

The Tarantula is met with in all parts of Apulia; but particularly in uncultivated situations, and dry sunny hills which have a southern aspect. It is said to be entirely confined to this country; but is probably an inhabitant of many others, though it's poison may be more injurious there than in colder latitudes.

Geoffroy is of opinion that the Tarantula never proves venomous except in the coupling season; and Baglivi affirms that it is never so but during the heat of summer, particularly in the Dog-days, when becoming enraged, it flies at all that pass by.

The Tarantula being of a very tender frame, and easily injured by cold, winds, and rain, it always digs a cave in the side of some hill for it's habitation; and for that purpose usually makes choice of the hardest ground it can find, which is better able to defend it, and which it easily perforates with it's forceps and claws. Sometimes it burrows itself a cave in a valley or plain; but in that case it always chuses a dry, and commonly a chalky soil. When found in such situations, the entrance into it's cave is small, and within are several winding passages: and if it happens to be surprised with wet, it then quits the floor of it's cell, and suspends itself by it's feet from the roof.

The Tarantula preys on a number of small insects, with which Apulia abounds; and seldom appears in the day time, but creeps abroad about sun-setting in quest of carnage and depredation. Should it at any time remain the whole evening in it's cave, it is only on purpose to practise a different method of hunting it's prey: in this case it comes forward to the mouth of it's hole, where it lies in wait; it's fore-legs being placed at the extremity of it's cell, and it's eyes having a distinct view of every thing around it. The unwary objects of it's prey are seized as they pass, and conveyed into it's den; where the tyrant, having feasted on such portions as he prefers, conceals the wings and fragments to prevent suspicion, and resumes his former watchful posture.

The Apulian peasants practise a particular kind of artifice to allure the Tarantula from it's den during



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during the day-time, in order to destroy it. This consists in making a soft hissing noise through an oaten pipe. Whether the insect is enchanted with this sound, or imagines it to be the voice of some favourite prey, is uncertain; however, it always comes forth, and seldom fails becoming a sacrifice to its voracity.

The Tarantula has eight legs, each of which has three joints, and covered with fine downy hair. They are of a whitish colour at the bottom, and variegated with black lines; but in the upper part, where they join the breast, they are wholly black. They all originate from a kind of oval shield placed on the breast, black, hairy, and very hard; and are sometimes denominated the spiculum of the Tarantula. From the shoulders grow a pair of horns, or more properly arms, which the creature uses in confining its prey while killing it with its forceps: these horns or arms have an equal number of joints with the legs, but they greatly differ from them in being shorter and yellower; they are also covered with longer hair; and terminated with black claws, capable of bending in every direction. The belly is either white, or of a pale yellow hue; and marked with a transverse streak of black: this is surrounded with several other spots of the same colour, and clothed with a very fine short down. The rest of the body is covered with pretty long hair of a whitish or brownish colour. The apex of the head, the shield of the breast, and the extremities of the forceps, are as hard as a crab's claws; but the rest of the body is covered with a tender, supple skin. The eyes, which are very large, and of a fine shining black colour, are continually in motion; and, when seen during the night, or in a darkish situation, shine like the eyes of a cat. Where the mouth is placed in most other animals, a black, hard forceps, arises in this; the upper part of which instrument is covered with yellow hair; and terminated by extremely fine and sharp claws, which the insect is capable of closing or shutting up at pleasure. While the arms hold the prey in a proper position, these sharp points inflict wounds on the body; and the other parts of the forceps squeeze the victim till all the juices are pressed out. The mouth is situated considerably below the forceps, exactly placed for the reception of the juices expressed by this operation.

The Tarantula sleeps in its cave during the whole winter, and a great part of the autumn and spring; and if, during this time, it be disturbed by the motion of the earth, or by any other means be removed from its cell, it is found quite torpid and numbed, and incapable of the smallest exertion.

A full-grown Tarantula is about the size of a chestnut; but some old ones are considerably larger. The female may be distinguished from the male by the superior length of her legs, and largeness of her belly. They copulate in the months of June and July; and at such times the females are often observed in the fields carrying the males on their backs. In August and September, they lay their eggs, which remain in the same state during the whole winter, and are hatched the succeeding spring.

Pliny relates a story of the young ones always devouring their parent for their first food; which is countenanced by the observations of the peasants of Apulia, who say that they all surround

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her, and extract her juices in many parts at once, till they leave her lifeless carcase on the field; after which they go in quest of other food.

The bite of the Tarantula, as it is called, is a wound inflicted in a very peculiar manner. The creature pierces the skin with its forceps, and instantly injects from its mouth a poison into the wound. The time when the wounds of these spiders are said to be most dangerous, is that of their copulation; when they are in their utmost vigour, and possess the most noxious powers. People of condition are seldom hurt by them; but poor labourers, who sleep half naked in the fields; and women who travel the country with their feet uncovered, gathering medicinal herbs; are much exposed to their injuries.

The bite of this creature occasions a pain which at first resembles that of the sting of a bee or an ant. In a few hours, the patient feels a numbness; and the part affected is marked with a small livid circle, which soon after rises into a very painful swelling: shortly after this, he falls into a profound sadness, breathes with much difficulty, his pulse grows feeble, and his senses fail. At length he loses all sense and motion; and, according to some naturalists, expires, unless speedily relieved. But these symptoms come on somewhat differently, according to the nature of the Tarantula, and the disposition of the patient. An aversion for black and blue; and, on the contrary, a predilection for white and red; are among the unaccountable symptoms of this disease. All the medical assistance hitherto discovered, consists in some chirurgical applications on the wound, and in cordials and sudorifics which are of little service; but music, which reason perhaps never could have pointed out, is said to be infinitely more efficacious.

No sooner has the person affected lost his sense and motion, than a musician tries several tunes on an instrument; and when he has hit on one whose tones and modulations suit the patient, he is immediately observed to make a faint motion; his fingers begin to move in cadence, then his arms, next his legs, and by degrees his whole body: then he rises on his feet, and begins to dance, his strength and activity still increasing. Some will continue to dance for six hours without intermission. After this the patient is put to bed; and when he is judged to be sufficiently recruited from his first dance, he is allured out of bed by the same tune, in order to a second.

This exercise is reiterated for several days successively, seven or eight at least; in which time the patient finds himself excessively fatigued, and unable to dance any longer, the characteristic proof of his being cured; for, as long as the poison acts on him, he would dance, if encouraged, till he fainted through extreme lassitude. Perceiving himself thus tired, he begins to recover his reason; and awakes, as out of a profound sleep, without the smallest recollection of what had passed in his paroxysm, or even in his dancing.

Sometimes the patient, on thus recovering from his first access, is quite cured; but if otherwise, he finds a melancholy gloom hanging over him, shuns the sight of mankind, and searches for water; and, if not carefully watched, would drown himself. Should he now escape death, the fit returns at that time twelvemonth, when he is again driven to dancing; and some are said to have had



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returns of it regularly for twenty or thirty years. Every Tarantula has it's particular and specific tune; but, in general, they are all brisk, sprightly airs, that effect a cure.

Such are the result and cure of the Tarantula's bite, according to Geoffroy, Baglivi, and others; and very ingenious theories have, in consequence of them, been spun by Geoffroy and Mead: but, notwithstanding all this cloud of testimonies, we are rather inclined to believe Dr. Dominico Cirillo, professor of natural history at the university of Naples, who positively contradicts their assertions. This gentleman having had an opportunity of examining the effects of the Tarantula in that country where it is found in the greatest abundance, affirms, that the surprising cure of the bite of this creature by the effects of music is totally destitute of truth; and that it is only an invention of the natives, who procure money by dancing when they say the tarantism begins. He makes no doubt that the heat of the climate contributes essentially to warm their imaginations, and to throw them into a delirium, which may in some measure be cured by music: but several experiments have been tried with the Tarantula; and neither men nor animals, after the bite, have had any other complaint, except a very trifling inflammation of the part, like that produced by the bite of a scorpion, which goes off spontaneously without any danger, or the necessity of medical applications. In Sicily, where the summer is still warmer than in any part of the kingdom of Naples, the Tarantula is never dangerous; and music is never employed for the cure of the pretended tarantism.

It is, without doubt, very extraordinary, says this writer, that a man of sense, and a physician of great erudition, as Baglivi was, should have been satisfied with the account of this disorder; and that, instead of examining the facts by experiments, he should rather have tried to explain it. Every year, this surprising disorder loses ground; and he is persuaded that, in a very little time, it will entirely lose it's credit.

All the Neapolitan physicians regard the Tarantula in the same light with Cirillo; especially since the publication of the learned book on this subject by Dr. Serao, who, by various experiments, has proved that the bite of the Tarantula never produced any bad effects, and that music never had any connection with it.

Thus does fable prevail for a time, till it's errors are detected by reason and philosophy: then the dupes of imposition blush at their credulity; and impostors lose their credit, the source of their gain.

TARANTULA is also a species of lizard common in Italy, and called by Aldrovandus *Lacertus Facetanus*. It is of a grey colour; the skin is extremely rough; and the body is pretty thick and round. It is found, like the common eel, under old walls, and amid ruinous buildings, particularly in the vicinity of Rome. The figure of this creature is so disgusting, that the Italians hold it nearly in the same abhorrence as the English do the toad. It is likewise reckoned poisonous; but this quality does not appear to be well attested.

TARDA AVIS. An appellation by which many express the bustard, more commonly called otis.

TARFIBOIA. An American species of serpent, called also Cacaboia, though the two appel-

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lations are by some applied to different animals. However, they are both of the amphibious kind, and by no means remarkable for their poisonous effects. They are entirely black, small, and easily offended.

Authors, indeed, have given different descriptions of these serpents; some making the animal expressed by the latter name distinct from the former, and of a yellow colour.

TAREIRA. An American fish, having an oblong and thick body, gradually tapering towards the tail. The head resembles that of a snake; and is raised into two tubercles over the eyes, which are yellow, with black pupils. The nose is pointed, and the mouth is large, and yellow within. There are extremely sharp teeth in both the jaws, and on the tongue. It has eight fins, of which the tail is accounted one; and this, as well as the rest, is soft, tender, thin, and sustained by soft rays. The scales are so nicely laid over each other, that it seems smooth to the touch. The belly is white; and the back and sides are variegated with longitudinal green and yellow lines. The flesh is eaten, but not much admired for it's flavour.

TARIERA. An American fresh-water fish described by Marcgrave. It is of an oblong figure, with a straight back, and a belly somewhat depending. The under jaw is longer than the upper; and the teeth are extremely sharp, among which are two longer than the rest in the middle of the under jaw, and four in the upper. The scales are large; the back is brown; and the belly and sides are whitish. The flesh is well tasted, but full of bones.

TARIN. A French appellation for the citrinella; an Italian bird remarkable for the beauty of it's plumage, and the melody of it's notes; and therefore always caged.

TARINGTING. A Philippine name for a species of lapwing common on the sea-shores, remarkable for it's fleetness in running.

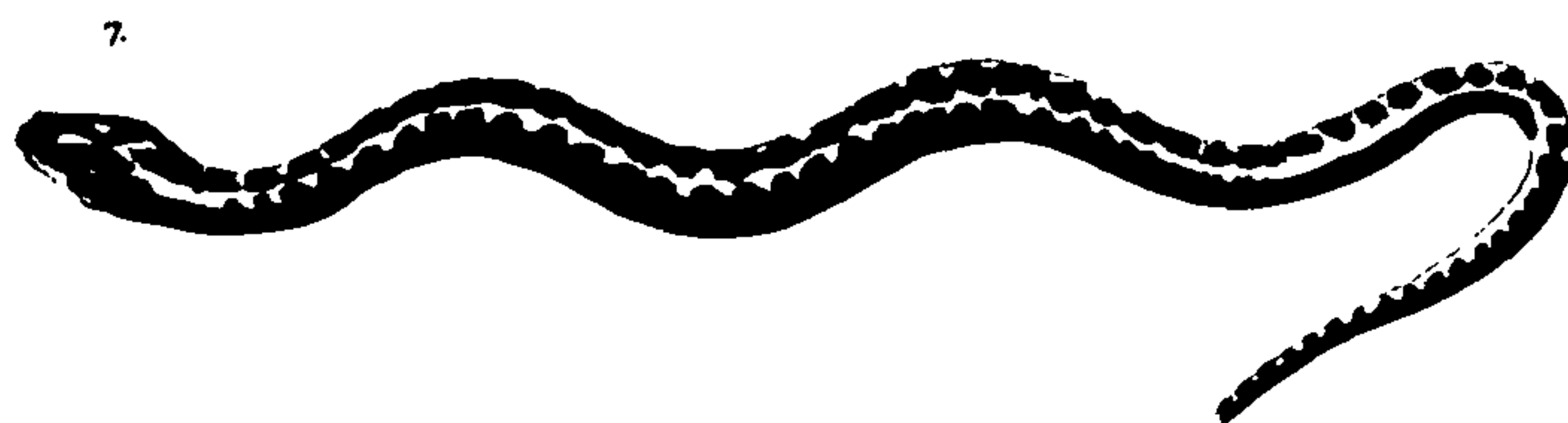
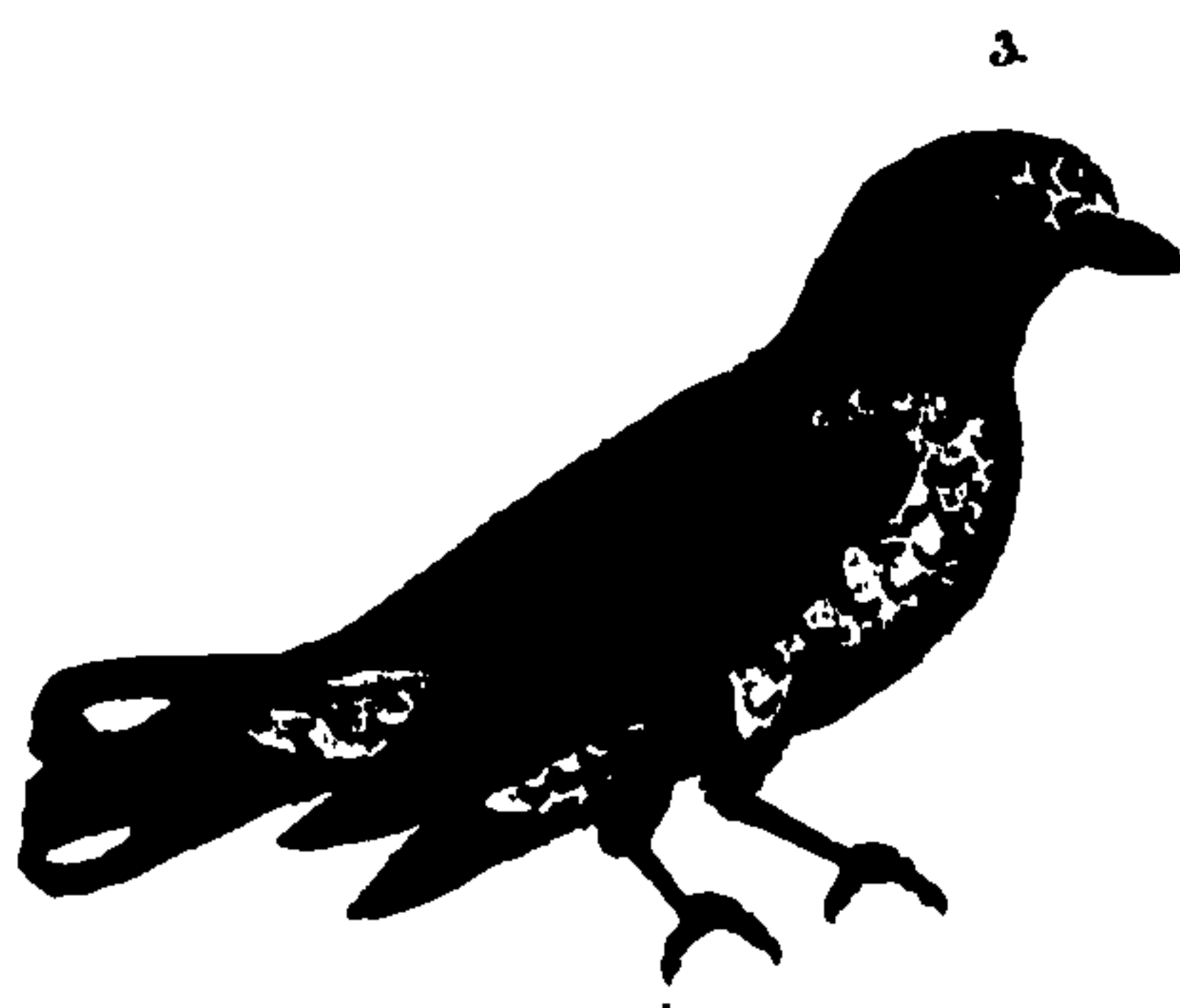
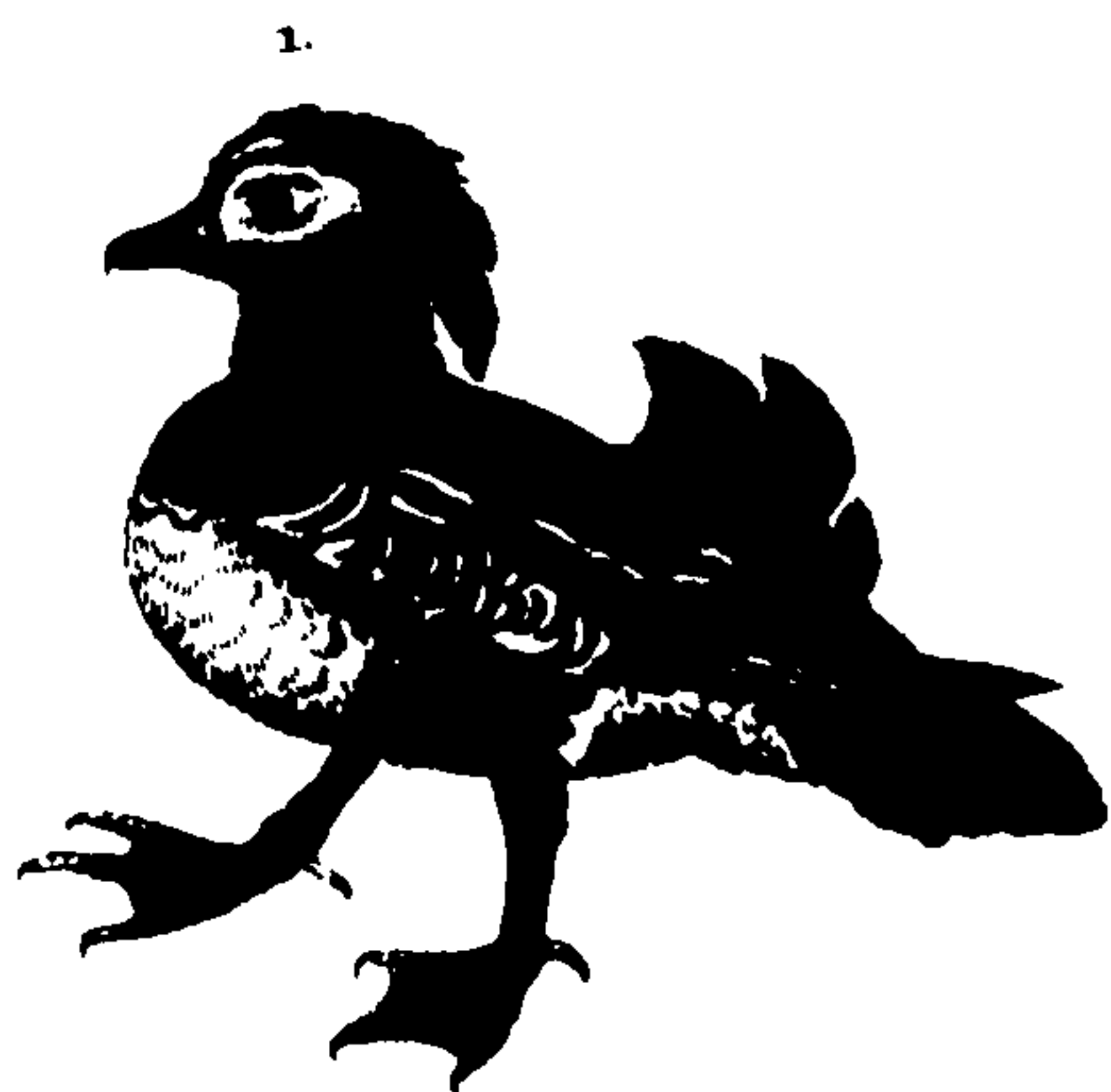
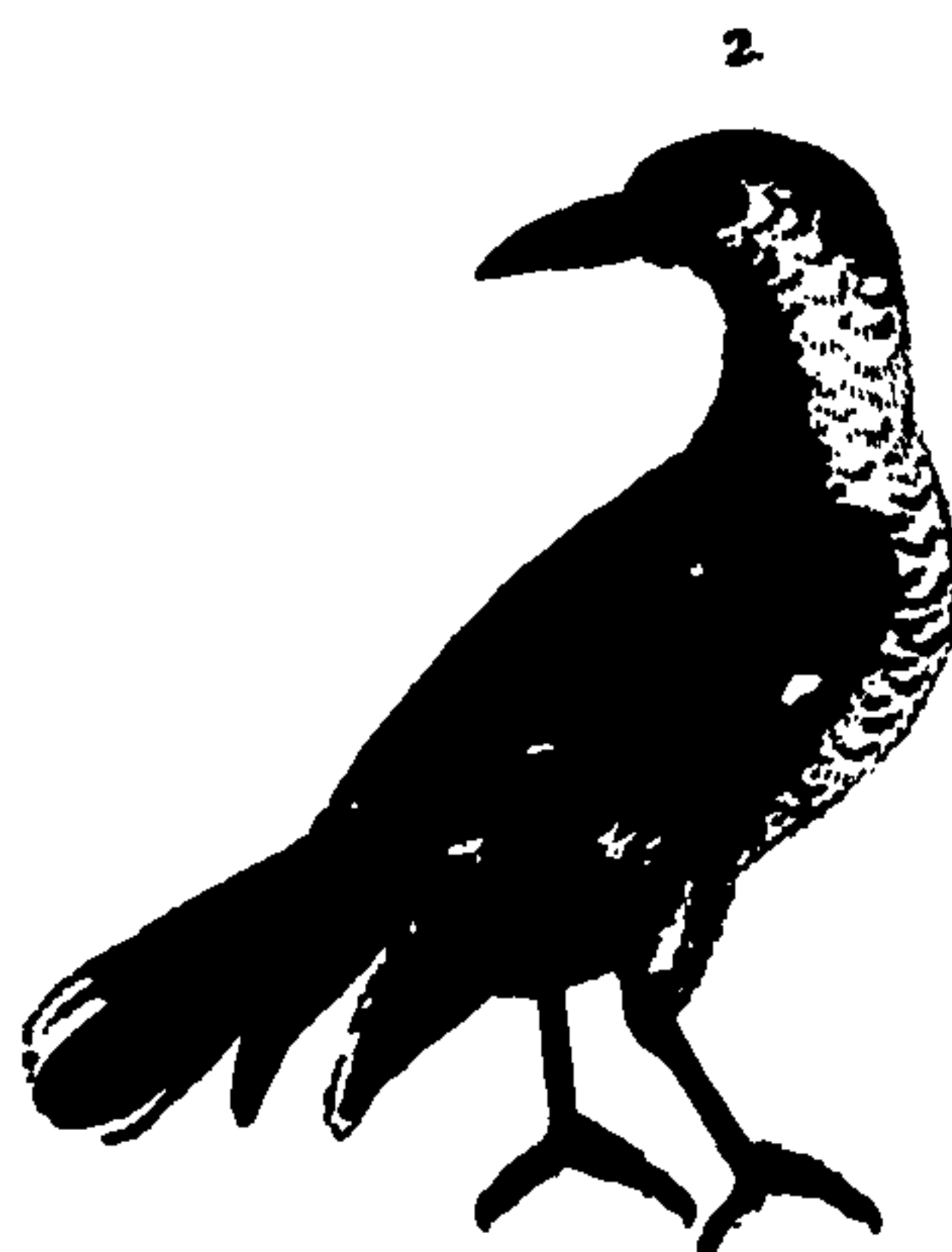
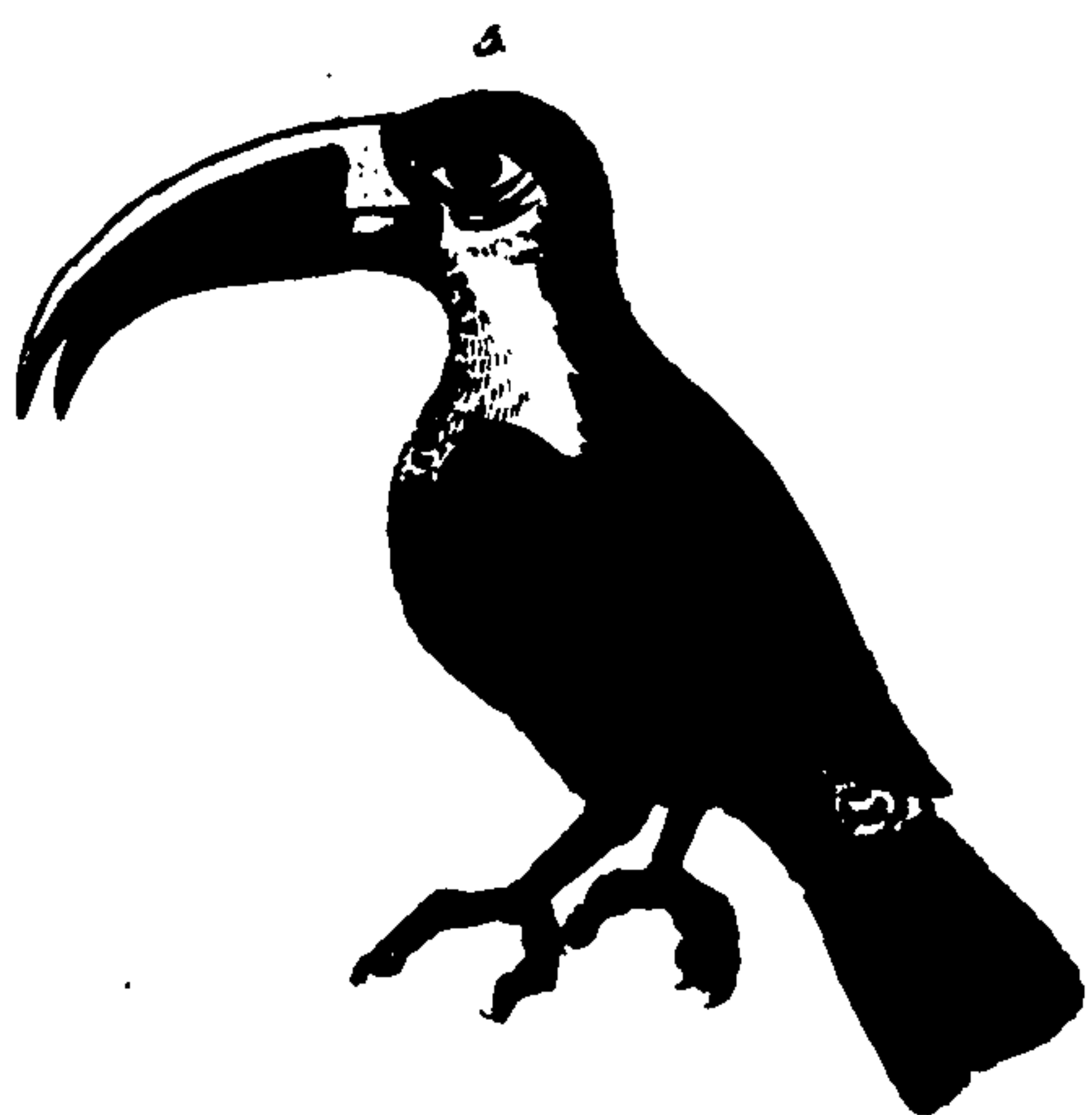
TARRIER. A small dog of the hound kind, with rough hair. It is principally used in forcing foxes or badgers out of their holes; or rather to give notice, by it's barking, in what part of their kennel the fox or badger resides, when the sportsmen intend to dig them out.

TARROCK; the *Larus Tridactylus* of Linnaeus. A marine fowl of the larus or gull kind, about the size of the common pigeon, and not very dissimilar in shape, except that the head is larger and thicker.

The usual length of the Tarrock is fourteen inches; and the expansion of the wings three feet. The bill is black, short, thick, and strong. The head is large; the colour of which, together with the throat, neck, and whole under side, is white. Near each ear, and under the throat, there is a black spot; and on the hind part of the neck is a black crescent, the horns pointing to the throat. The back and scapulars are of a blueish grey colour; the lesser coverts of the wings are dusky, edged with grey; the larger next to them are of the same colour; and the rest are grey. The exterior sides, and the extremities of the four first quill-feathers, are black; the tips of the two succeeding ones are black; but all the rest are wholly white. The ten middle feathers of the tail are white, tipped with black; the two extreme ones are quite white, and the legs are of a dusky ash-colour.

The great distinction of this bird from all others





1 CHINESE TEAL. 2 GOLDEN THRUSH. 3 GOLDEN TITMOUSE. 4. AFRICAN TORTOISE. 5 RED-BEAKED TOUCAN.  
6 EDIBLE TURTLE. 7. VIPER.



## T A T

others of the gull kind is, that it has no hinder toe; but, instead of it, a small protuberance. It is very common on the coasts of Cornwall, and among the Hebrides.

**TARTARUGA.** An American name for a species of tortoise, usually known among authors by its Brazilian one, *Turucus*.

**TASCHENMUI.** An appellation whereby some ornithologists express the *Anas clypeata*, a species of duck remarkable for the breadth of the end of its beak; and hence the English appellation shoveler, or broad-beaked duck.

**TATU, or TATOU;** the *Dasyptus* of Linnæus. A Brazilian appellation for the armadillo, or shell hedge-hog; of which there are several species.

**TATU APARA;** the *Tricinctus Dasyptus* of Linnæus. This creature has three bands; an oblong head; small, short, roundish ears; and five toes on each foot. The fore legs are considerably shorter than the hind ones; and the tail is of a pyramidal figure, and little more than the breadth of two fingers in length. The whole body is covered with a shelly coat, one foot long and about six inches wide, smaller at both extremities than in the middle, convex externally, and concave internally. In the middle, or a little towards the fore end, there are four junctures, placed transversely; by means of which the animal can at pleasure expand its shell, or contract it into a round figure. The whole crust is composed of pentangular pieces, very nicely fitted to each other; and the series of these between the commissures are parallelograms. The whole is composed of yellowish scales, joined by an extremely tough skin.

This animal burrows under ground, keeps in its hole during the day, and roves abroad at night: when desirous of repose, it contracts its crust into a round figure; and concealing its whole body, exhibits the appearance of a sea shell, rather than of a land animal. It is hunted with little dogs; and grows very fat. When young, it is esteemed delicious; but, when old, has a musky, disagreeable taste. It breeds every month, and brings forth four at a time.

**TATU MUSTELINUS;** the *Dasyptus Unicinctus* of Linnæus. This animal has a very slender head; small erect ears; and the crust on the shoulders and rump consists of square pieces. There are eighteen bands on the sides; and five toes on each foot. The length, from the nose to the tail, is about fifteen inches; and the tail itself is five and a half. It inhabits several parts of South America.

**TATU PAHA;** the *Dasyptus Sex Cinctus* of Linnæus. The crust of the head, shoulders, and rump, of this animal, is formed of angular pieces; and between the bands, and also on the neck and belly, there are a few scattered hairs. The tail is thick at the base, tapering to a point; and each foot is furnished with five toes. It inhabits Brazil and Guiana.

**TATU PORCINUS, or PIG-HEADED;** the *Dasyptus Novem Cinctus* of Linnæus. This animal has the crust of its head, shoulders, and rump, marked with hexangular figures; the nine bands on the sides are distinguished by transverse cuneiform marks; the breast and belly are covered with long hairs; there are four toes on the fore feet, and five on the hinder; the tail is taper, and somewhat longer than the body; and the length of the whole animal is three feet.

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This creature inhabits South America. A live specimen, imported into England some years ago from the Mulquito Shore, was fed on raw beef and milk, but rejected English grains and fruits.

**TATUETTE.** A species of armadillo, differently described by naturalists; some making it the *Dasyptus Novem Cinctus* of Linnæus, while Buffon and Pennant attribute to it only eight bands. It has two upright ears; small black eyes; four toes on the fore feet, and five on the hind ones. The length, from the nose to the tail, is about ten inches; and that of the tail is nine. It is of an iron colour on the back, and whitish on the sides; and the belly is also whitish, and naked, except a few hairs dispersed over it.

It is a native of Brazil; and its flesh is esteemed peculiarly delicate. See ARMADILLO.

**TAURUS.** The classical name for the male of the cow kind. See Ox, Cow.

**TAURUS.** By this appellation also some of the ancients expressed the bittern, from its note imitating the roaring of a bull.

**TAURUS ÆTHIOPICUS.** An obscure, or rather a fabulous animal, described by Pliny.

**TEAL;** the *Anas Crecca* of Linnæus. A fowl of the duck kind, and the smallest of the tribe. The beak is black; the head, and the upper part of the neck, are of a reddish brown hue; but on each side of the head runs a green streak from behind the eyes quite to the back part; between these is a black spot under the eyes; and there is likewise a white line which separates the reddish colour from the green. The lower part of the neck, the shoulders, and the sides, are very beautifully variegated with black and white streaks; and the breast and belly are of a dusky greyish white colour, the former delightfully spotted with black. The vent is black; the tail is sharp pointed and dusky; the coverts of the wings are brown; the greater quill-feathers are dusky; the exterior webs of the lesser are marked with a glossy green spot, above which is another of black; and the tips are white. The irides are whitish; and the legs are dusky.

The female is of a brownish ash-colour, spotted with black; and has a green spot on the wing, like the male.

**TEAL, SUMMER;** the *Anas Circia* of Linnæus. Pennant seems, with reason, to consider this bird as the female of the common Teal; though Linnæus has described it as a distinct species.

**TEAL, CRESTED;** *Querquedula Cristata*. By this appellation Bellonius, and others, express a species of duck remarkable for having a tuft of feathers, one inch and a half long, hanging down from the back part of its head; and thence called the tufted duck. It is more usually denominated *capo negro*.

**TEAL, CHINESE;** the *Anas Galericulata* of Linnæus. This beautiful and singular bird has a reddish-coloured bill, and hazel eyes. The sides of the head, from the basis of the bill to the ears, are white, in the middle of which spaces the eyes are placed. The crown of the head is of a fine green colour; from above the eyes backwards, there passes on each side a bar of purple feathers; and below these bars the plumage is green, on the hind part of the head. The feathers on the head are long, forming a crest, which usually reclines backwards; the hind part of the neck, and a little way down the fore part, are of a pleasing red colour: the breast is of a purplish hue; and at the bottom



bottom of the neck, on each side the breast, there is a spot of black and white bars alternately succeeding each other, placed transversely. The back, and the coverts of the wings, are brown, with a changeable lustre of blue and green; the outer quills of the wings are blackish; the middle quills are of a fine varying green, tipped with white; and three or four of the quills next the body are brownish, their extreme webs being edged with white.

Two uncommon feathers appear in this bird; one among the quills of each wing, which, when the wings are closed, rise above the back in a singular manner. These feathers are of a dull orange, or bright bay colour, on their upper or broader webs, edged towards their points with black; the narrow, or lower webs, are of a fine blue colour, except their tips, which are bay. The tail is brown, with a gloss of blue; the belly, and coverts beneath the tail, are white; and the side-feathers, which fall partly over the wings, are of a light cinereous brown hue, with transverse arched lines of white and black placed alternately. The legs and toes are of an orange colour; and the claws are dusky.

**TEAL, INDIAN.** This beautiful bird is a native of the East Indies. The bill and feet are of a fine red colour; the top of the head, the upper part of the neck, and almost all the back, are yellow; as well as the rump, which is marked with semilunar spots. The under part of the neck, the breast, and the belly, are white; but the wings possess a great variety of colours. The tail is partly green, and partly blue; and the toes are destitute of membranes.

**TEITEI.** A Brazilian bird, a species of the tanagra in the Linnæan system. It is about the size of the red-breast, and beautifully coloured; its voice is very melodious; and it is frequently tamed and caged.

**TEJUGUACU.** A Brazilian species of lizard, called also temapara. In its general figure, it bears a strong resemblance to the iguana; but differs from it in its whole body being black, with a few variegations of white. It principally subsists by sucking of eggs; and is capable of surprising abstinence, Marcgrave having kept one alive seven months without food. This species also afforded a certain testimony to that author of the reproduction of the tail when amputated.

**TEIUNHANA.** A small American lizard, with a sharp nose; and a long slender tail, terminating in a point almost as sharp as a needle. The head is covered with scales; the back, sides, and legs, have a soft velvet-feeling skin; and the tail is covered with extremely minute scales of a square figure.

**TELESCOPE SHELL.** An appellation by which some authors express a particular species of turbo, with plane, striated, and numerous spires.

**TELLINA.** In the Linnæan distribution, a distinct genus of the class of vermes, and order of testacea. Its characters are these: the inclosed animal is a tethys; and the shell a bivalve, generally sloping down on one side, with three teeth at the hinge. Linnæus enumerates twenty-nine species.

Da Costa makes the Tellinæ the ninth family of bivalve shells; defining them to be shells more broad than long, somewhat flat, and the hinge having two teeth set close together. Of this family he reckons two genera; the Tellinæ, or shells

with similar sides, whose beaks and hinges are central, containing few species; and the cimeï, or shells with dissimilar or unequal sides, whose beaks and hinges are placed near to, or quite at one extremity.

There are several fossil shells of this last genus which have not yet been discovered recent from the sea.

These shell-fish do not naturally live on the surface of the bottom of the sea, but bury themselves in the mud or sand, after the manner of the chamæ, preserving a communication with the water above by means of the same sort of tubes or pipes which those fish possess; but as the tubes of the Tellinæ are very short, they cannot exist at any great depth from the surface.

Pennant enumerates the following species of Tellinæ, all found on the British coasts: the fragile, the depressed, the flat, the plain, the rayed, the carnation, the flesh-coloured, the trifasciated, the rugged, the Cornish, and the horny.

**TEMAPARA.** A particular species of lizard, approaching to the nature of the iguana, and sometimes denominated the tejuguacu. See TEJUGUACU.

**TEMELO.** A name given by some ichthyologists to the umber; called the grayling in England.

**TEMPATLAHOAC.** A bird of the duck kind, described by Nieremberg; a native of some parts of the West Indies.

**TENCH.** In the Artedian and Linnæan systems, a species of the cyprinus; and distinguished by Artedi under the appellation of the blackish, mucous, or slimy cyprinus, with the end of the tail even. It is the cyprinus pinna ani radiis viginti quinque.

The Tench appears to have been little esteemed by the ancients; an evident proof of the capriciousness of taste: for what Aufonius deems only fit for the canaille, in modern days is a feast for the voluptuous.

Some have denominated this fish the physician of the sea, from its slime being supposed to possess such a healing quality, that the wounded apply it as a styptic. Diaper, in his Piscatory Eclogues, says, that even the voracious pike will spare the Tench on account of its healing powers. But whatever sanative powers its slime may possess, (which do not seem well authenticated) certain it is that its flesh is both wholesome and delicious.

The Tench seldom exceeds four or five pounds in weight, though it has sometimes been caught of the weight of ten pounds; and Salvian mentions one of twenty pounds. It seems fond of still waters, and is rarely caught in rivers. The body is thick and short in proportion to its length; and the scales, which are very small, are covered with slime. The irides are red; and sometimes, but not invariably, there is a small beard at each angle of the mouth. The back is dusky; the dorsal and ventral fins are of the same colour; the head, sides, and belly, are of a greenish cast, most beautifully mixed with gold, which appears in its greatest splendor when the fish is in season; and the tail is quite even at the extremity, and extremely broad.

**TENDRAC.** An animal of the hedge-hog kind, so called by Buffon. It is a native of the East Indies; and its flesh is much esteemed by the natives.

**TENEBRIO.**



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**TENEBRIO.** A genus of the coleoptera order of insects, including thirty-three species; and commonly known in this country by the name of the stinking beetle. The legs and thighs are slender; the feelers are pretty long, and composed of oblong joints, except the last, which is round; and the breast is marked with small specks, and adorned with a rim. It has a slow motion; lives in the deep cavities of dunghills during the day, and comes abroad only in the night-time.

The smell of this insect is extremely offensive; from which circumstance it obtains it's English name.

**TENTHREDO.** A fly of the stinging kind, of the shape and size of the bee, and colour of the wasp, which annoys kitchens and larders. It is extremely gregarious; but though swarms associate together, they produce no honey.

In the Linnæan system, the Tenthredo is a genus of the hymenoptera order of insects. It's characters are these: the mouth is furnished with maxillæ, but has no proboscis; the wings are plane and tumid; the sting consists of two lamina, serrated, and somewhat prominent; and the scutellum is formed of two grain-like bodies separate from each other.

Linnaeus enumerates fifty-five species, distinguished from each other by the shape of their antennæ.

**TEPETOTOTL.** A Brazilian bird of the gallinaceous kind, more usually denominated Mituporanga.

**TEREBELLA.** In the Linnæan system, a genus of the mollusca order of worms. It's distinguishing characteristics are: the body is filiform; from the mouth issues a tubulose gland; and the surrounding tentacula are numerous and capillary.

A single species is found in the cliffs which line the shores of the Mediterranean sea.

**TEREBRATULA.** An appellation whereby Gualtieri and others express a species of the smooth conchæ anomia, which have a small hole near the head of the shell, appearing as if bored by art.

**TEREDO.** A species of sea-worm, which eats it's way into the bottoms of ships, lining it's cell with a kind of shelly matter.

In the Linnæan system, the Teredo is a genus of the testacea order of worms, the animal of which is a terebella; the two maxillæ are calcareous, hemispherical, amputated before, and angulated below; and the shell is round, bending, and capable of penetrating wood. To one species Linnaeus gives the appellation of Calamitas Navium.

The head of the Teredo is excellently adapted by nature for the toilsome offices it is destined to perform; being coated with a strong armour, and furnished with a mouth like that of the leech, by which it pierces wood as that animal does the skin. A little above this there are two horns, which look like a continuation of the shell. The neck is equally well fitted to the service of the creature as the head, being furnished with several strong muscles. The rest of the body is only covered with a very thin and transparent skin, through which the motion of the intestines may be plainly perceived by the naked eye; and, by the assistance of the microscope, several other curious particulars become visible.

This worm, when newly excluded from the egg, is wonderfully minute; though, when in it's

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utmost perfection, it is sometimes one foot in length. However, three or four inches are it's common size.

The bottom of a vessel, or any other piece of wood constantly under water, inhabited and injured by a number of these worms, exhibits no external appearance of their depredations; nor are the creatures visible till the outer part of the wood is removed, when their shelly habitations appear: these, however, lie so near the surface, as to have an easy communication with the water; and there are a multitude of little perforations in the very surface, through which the animals protrude the extremities of their little shelly horns, which are of a reddish colour, and may be distinguished by an accurate observer like so many red prominent points; these are all retracted on the least touch, and remain concealed till the danger is past. From these points, or the small apertures which admit them, are the cells of these creatures to be traced: they are composed of a perlaceous or shelly matter, forming a long tube, with various turnings and windings, which marks the mode of the creature; but which usually neither adheres to it's body, nor to the wood, being always more or less loose in the wood; and within them there is always a large space for the body of the creature to be every where surrounded with water. They are very smooth internally; externally, a little rough; and, when serving for the habitations of old animals, are much firmer than those of the young ones.

These shelly tubes are composed of several annulations, differing greatly in length from each other; and there is an evident care in these insects that their habitations should not be so placed as to incommode their neighbours.

The vast increase of the Terebines, and their shelly tubuli, naturally lead to an investigation of the manner of their generation; and, when we consider that each of these creatures is, from the time that it is produced from the egg, immediately lodged in a cell, in which it lives without the least possibility of reaching another animal of the same kind, it is not easy to account for the propagation of the species in the common way. This difficulty, however, is solved by an accurate anatomical observation of the insects themselves; since, in every individual, the genitals of both sexes, the semen and ovula, are equally distinct: each individual therefore serves by itself for the propagation of the species; and the possibility of this is evidently proved from the analogy of other hermaphrodite animals more exposed to observation.

Eggs are found in great plenty in the bodies of these animals about the month of June; and are discharged with the water into the sea, where the far greater part of them are infallibly destroyed by other small marine insects; and the few that can affix themselves to any piece of wood which they may happen to touch, hatch, and penetrate it's substance, after the manner of their parents.

To destroy these animals, at once so detrimental and dangerous, various arts have been tried; and perhaps some prescriptions may have assisted to retard their progress; but an universal and infallible preservative against their depredations is still among the desiderata of utility.

It is supposed that the Teredo was first imported from the Indies.

**TERMES.** A genus of the aptera order of insects.



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insects, in the Linnæan system. Its distinguishing characters are; that it has six feet formed for running; two eyes; setaceous antennæ; and a mouth with two jaws.

Linnæus enumerates three species; one of which is the death-watch; another, the *Termes fatalis*, which he represents as one of the greatest pests of either Indies, on account of the prodigious havock it makes in every sort of furniture and apparel, as well as in the fruits of the earth.

This naturalist, however, seems to have given an imperfect and inadequate description of this formidable tribe: we shall therefore have recourse to the ingenious Mr. Smeathman, from whose account the subsequent particulars are abstracted.

The Termites, which have been noticed by various travellers in different parts of the torrid zone, and generally denominated white ants, resemble these sagacious insects in their manner of living, which is in communities; forming extraordinary nests in the surface of the ground, and various subterraneous passages; and also in their provident and diligent labour: but in every respect much exceed these congenerous insects.

Smeathman observes, that the insect, in it's perfect state, has four wings, without any sting; and consequently should be arranged under the neuroptera, and not under the aptera of the Linnæan system.

The communities of Termites consist of one male and one female, generally the parents of all the rest; and of three orders of insects, apparently of very different, though really of the same species. Those of the first order are the working insects, or labourers; the second comprehends the fighting insects, or soldiers, which are exempted from labour; and the third are the winged, or perfect insects, which are male and female, and capable of propagation, but are neither labourers nor soldiers. To this order belong the kings and queens; and, within a few weeks after they are elected and elevated to this rank, they migrate, and either establish new kingdoms, or perish in a day or two.

The largest species, called the *Termes lullicofus*, is the best known of any on the African coast: it erects immense buildings of well-tempered clay or earth, which are constructed with singular ingenuity. In one respect, it is peculiarly mischievous; and, in another, equally important and useful, by destroying those vegetable or animal substances which encumber the earth, and are noxious on account of their putridity.

The buildings which these insects erect are in general of a conical shape, and about ten or twelve feet high; consisting of an exterior part, which is large and strong; and of an interior, or the habitable part, divided into many apartments, for the residence of the king and queen, the nursing of their progeny, the accommodation of the soldiers and labourers, or magazines of provision. There are other nests or habitations constructed by different species, which are in the form of turrets, or upright cylinders, and contain a number of cells: they are of two sizes, for the accommodation of a larger and a smaller species. And there is also another kind of nests, generally spherical or oval, built in trees, the residence of a distinct species.

The labourers, which are by far the most numerous of the three orders already specified, are about a quarter of an inch long; and the soldiers are about half an inch long, and equal in magnitude

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to fifteen of the labourers; the mouth of the latter is evidently calculated for gnawing and holding bodies; whereas that of the former has it's jaws shaped like two sharp awls, a little jagged, and as hard as a crab's claws; so that they are incapable of any thing but piercing or wounding. In the insects of the third order, or such as have arrived at full perfection, the head, thorax, and abdomen, are wholly different from those of the other orders; and they are furnished with four large brownish or transparent wings; their length is six or seven tenths of an inch, and each is equal in bulk to thirty labourers. When arrived at maturity, they have two eyes visible, which before were imperceptible.

The Termites are collected and eaten by the natives, who esteem them excellent food. The king and queen are lodged in apartments so closed up, that one passage only remains for the ingress and egress of the labourers and soldiers, but at which neither of the royal pair can come out. In the business of propagation, the abdomen of the female extends to an enormous size; so that an old queen's will be fifteen hundred, or two thousand times the bulk of the rest of the body, and twenty or thirty thousand times the bulk of a labourer; and, by it's peristaltic motion, eggs are protruded to the amount of sixty in a minute, or eighty thousand and upwards in twenty-four hours. The eggs are removed by the attendants into the nurseries; and, after being hatched, the young are furnished with every necessary till they are capable of providing for themselves.

It seems worthy of remark, that none of the working and fighting insects ever expose themselves to the open air, but either travel under ground, or within such trees and substances as they destroy, or through pipes made of the same materials with their nests. Those Termites which build in trees frequently construct their nests within the roofs and other parts of houses; to which they do considerable damage, unless speedily extirpated: and the larger species enter under the foundations of houses, through the floors, or bore through the posts of buildings, making lateral perforations and cavities as they proceed. They are also equally destructive to clothes or stores.

Smeathman makes mention of a particular species, to which he gives the appellation of walking Termites: these are considerably larger, as well as less common, than the others.

**TERN, BROWN;** the *Sterna Nigra* of Linnæus. This bird, which is also called the brown gull, is described by Ray as having the whole under side white, and the upper brown; the wings partly brown, and partly ash-coloured; the head black; and the tail undivided. Pennant, however, conjectures that this bird is no other than the young of the greater Tern.

**TERN, GREAT, OR SEA-SWALLOW;** the *Sterna Hirundo* of Linnæus. This bird is about fourteen inches long; and the expansion of the wings thirty. The bill and feet are of a fine crimson colour; the former being tipped with black, straight, slender, and sharp-pointed. The crown and hind part of the head are black; the throat and whole under side of the body are white; and the upper part, together with the coverts of the wings, are of a pale grey colour. The tail consists of twelve feathers; the exterior edges of the three outmost are grey, the rest white; and the exterior on each side



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side is two inches longer than the others, and closed in flying, so as to resemble only one slender feather.

These birds frequent the sea-shores, banks of lakes and rivers. They feed on small fish and water-insects, hovering over that element, and suddenly darting into it in quest of their prey. They breed among small tufts of rushes; and lay three or four eggs, of a dull olive-colour, spotted with black. All of this genus are very clamorous.

**TERN, LESSER;** the *Larus Minuta* of Linnæus. The length of this species is only eight inches and a half; and the breadth somewhat more than nineteen. The bill is yellow, tipped with black; the forehead and cheeks are white; a black line extends from the eyes to the bill; the top and hind part of the head are black; the breast and under-side of the body are covered with feathers so closely arranged, of such an exquisitely rich gloss, and so pure a white colour, that the most beautiful satin cannot vie with it. The back and wings are of a pale grey hue; the tail is short, white, and forked; the legs are yellow; and the irides are dusky.

Both this and the great Tern seem too delicate to endure the inclemency of the weather on our coasts during winter; for they are observed to quit their breeding-places at its approach, and not to return till the spring.

The Lesser Terns frequent the same places as the great; but are far less numerous than the latter.

**TERN, BLACK;** the *Sterna Fissipes* of Linnæus. This bird is of a middle size between the great and the lesser Tern: its usual length is ten inches; and the expansion of its wings is twenty-four. The head, neck, breast, and belly, as far as the vent, are black; and beyond, white. The male has a white spot under his chin. The back and wings are of a deep ash-colour; the tail is short and bifid; the exterior feather on each side is white; the others are ash-coloured; and the legs and feet are of a dusky red hue.

Ray denominates this species the cloven-footed gull, as the webs are depressed in the middle, and form a crescent. The black gulls frequent fresh waters; breed on their banks; and lay three small eggs of a deep olive-colour, much spotted with black. They are found, during spring and summer, in prodigious flocks, in the Lincolnshire fens; where they feed on flies, water insects, and small fish; and emit a continual scream.

Birds of this species are seen at a great distance from land. Kalm saw large flocks of them in the middle of the Atlantic ocean; and a later voyager assured Mr. Pennant, that he perceived one in the same ocean, at the distance of two hundred and fifty leagues from the Lizard.

**TERN, SURINAM.** This bird, which is about the size of a thrush, feeds on flies, is often domesticated, and is remarkable for the continual agitation of its head and body. The crown of the head is black, adorned with a pendent crest; and from the angle of each eye extends a white line. The cheeks are of a bright bay colour; the neck is marked on the sides and hind part with longitudinal lines of black and white; and the wings, back, and tail, are dusky, the last being tipped with white, and always spread. The breast is white; the legs are short and thick; and the toes are palmed, and barred with black and white.

## TET

**TERNATE.** An appropriate appellation by which some authors express a species of bat. See **BAT**.

**TESTACEA.** A denomination by which Linnæus expresses the third order of the vermes, or worms: the characters of which are; that they are animals of the mollusca or soft kind, of a simple make, and commonly covered with a calcareous habitation.

This order includes the whole tribe of shells, consisting of more than eight hundred species, comprehended under thirty-six genera.

**TESTACEOUS.** An epithet by which naturalists express such fish as are covered with a strong, thick shell; as oysters, pearl-fish, and others.

Strictly, however, Testaceous is only applied to fish whose strong and thick shells are entire: those which are thin, soft, and composed of several parts united by joints, as the lobster, are more properly denominated crustaceous.

**TESTUDO.** A classical name for the tortoise. See **TORTOISE**.

**TETHYS.** A genus of naked sea-insects; the bodies of which are formed, as it were, of two lips, with an oblong cartilaginous body between them. They have four tentacula, shaped like ears; and there are two perforations in most kinds near the tentacula. Hill enumerates several species of this genus.

In the Linnæan system, the Tethys is a genus of the mollusca order of worms: the characters of which are; that the body is oblong, fleshy, and without feet; the mouth terminates in a cylindric proboscis under the lip; and there are two foramina at the left side of the neck. Linnæus mentions only two species.

**TETIMIXIRA.** An American appellation for a fish more generally denominated pudiano.

**TETRADIS.** A name by which Linkius expresses a species of star-fish with only four rays; the more common kinds having five.

**TETRAO.** A genus of birds in the Linnæan system of the order of gallinæ; the distinguishing character of which is, that they have a naked spot near the eyes, full of fleshy tubercles. Of this genus there are twenty species; among which are the grouse, partridge, quail, and ptarmigan.

**TETRAODON.** A genus of the amphibia nantes in the Linnæan system: the characters of which are; that the maxillæ are bony, extended, and bipartite at the apex; the aperture is linear; the lower part of the body is full of prickles; and it has no vertical fins. Of this genus there are seven species, several of which Artedi has referred to his genus of ostracion. The mola, or sun-fish, belongs to this tribe.

**TETRAX.** A bird of the otis or bustard kind; called by some *anas campestris*, or the field-duck; and by others *canna*.

This fowl, which is very plentiful in France, is about the size of the pheasant, and has a beak like that of the common hen. The belly is white; and the back is variegated with grey, red, and black. It feeds on vegetables and insects; runs very swiftly; and is usually taken with nets.

**TETTIGOMETRA.** An appellation by which the ancients expressed the nymph of the cicada, or tetryx.

**TETTIGONIA.** A name given by the ancients to the smaller species of cicada, the larger being denominated *acheta*.



## THO

It is generally supposed by the moderns, that the *Tettigonia* was the same with the insect which the French denominate *cigalon*; and Reaumur observes, that whereas the ancients were acquainted with only two species, we are with three; and that our middle-sized cicada was their *Tettigonia*.

**TEUCHTLACOT-ZANHQUI.** An American appellation for the rattle-snake.

**TEUTHIS.** A genus of the abdominal fishes: the characters of which are; that the head is a little truncated on the fore part; that the bronchial membrane has five rays; and that the teeth are equal, rigid, and close set, forming a regular series.

Linnæus enumerates only two species.

**THEDO.** An appellation by which some ichthyologists express the trout.

**THISTLE-FLY.** A small insect produced from a fly-worm, which hatches in the protuberances of the *carduus hæmorrhoidalis*. In the protuberances of this thistle, while they are closed in all parts, the worm of this fly undergoes it's last transformation: it here makes a shell of it's own skin, in form of an egg, within which it assumes the nymph state. When this nymph becomes a living fly, the least part of it's difficulty consists in emancipating itself from the shell: it has a stronger prison from which it must get free, namely, the close compacted fibres of the protuberance of the vegetable. It has, however, no other way of performing this difficult task but that of inflating it's head, and throwing out the bladder or muzzle with which it is provided in this stage of it's existence.

**THORACICI.** In the Linnæan system, the name of the third genus of bony fishes, which respire by the means of gills only: the character of which is, that the ventral fins are placed underneath the pectoral ones.

This order includes seventeen genera, and two hundred and eighteen species. The genera are these: the *cepola*, *echeneis*, *coryphæna*, *gobius*, *cottus*, *scorpena*, *zeus*, *pleuronectes*, *chætodon*, *sparus*, *labrus*, *sciæna*, *perca*, *gasterosteus*, *scomber*, *mullus*, and *trigla*.

**THORNBACK;** the *Raia Clavata* of Linnæus. A species of ray easily distinguished from all the other by the rows of strong sharp spines disposed along the back and tail. In large specimens, there are sometimes three rows on the back, and five on the tail, all inclining towards it's end. On the nose, and on the inner side of the forehead, near the eyes, there are a few spines; and others are scattered, without any regularity, on the upper part of the pectoral fins. The mouth is small, and replete with granulated teeth. The upper part of the body is of a pale ash-colour, marked with short streaks of black; and the skin is rough, with small tubercles like shagreen. The belly is white, crossed with a strong semilunar cartilage beneath the skin: in general, the lower part is smooth, having only a few spines on each side.

Young fish have very few spines on them; and their backs are often spotted with white, each spot encircled with black.

The Thornback frequents the sandy shores of Britain; is extremely voracious, feeding on all sorts of flat fish; but is particularly fond of herrings and sand-eels; and sometimes devours crustaceous animals, such as crabs. It begins to generate in June; and brings forth it's young in

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July and August, which, as well as those of the skate, obtain the name of maids before they are old enough to breed. This fish begins to be in season in November, and continues so for some months; but it's young, as well as those of the skate, are in season throughout the whole year.

The Thornback sometimes weighs fourteen or fifteen pounds; and has even been known to exceed that weight.

**THOS.** An animal of the wolf kind, common in Surinam. It is larger than the common kind; has a light bent tail, and a white belly. It never touches men or cattle; provides it's food rather by cunning than open force; and preys chiefly on poultry and water-fowl.

**THRESHER.** An appellation sometimes denoting the sea-fox.

**THRIPS.** A name whereby the ancients expressed a sort of worm hatched from the egg of a beetle; which, while in the worm state, eats it's way into wood, wherein it forms cells and cavities of various shapes, and in various directions.

In the Linnæan system, the Thrips is of the order of hemiptera. It's characters are these: the rostrum is small and obscure; the antennæ are as long as the thorax; the body is slender, and of an equal thickness; the abdomen is reflexible, and often bent upwards; and the four wings are extended, incumbent, narrow, and cross each other at some distance from the base. The Thrips has also six feet, and the tarsus of each foot has only two articulations.

These insects are found on many plants and flowers, and especially peaches and nectarines.

**THRISSA.** An appellation by which the Greeks, and some of the modern Latin writers, express the fish known in England by the name of the shad, or mother of herrings.

**THROSTLE;** the *Turdus Musicus* of Linnæus. This bird, called also the song-thrush, or mavis, and sometimes the *turdus viscivorus minor*, is about nine inches in length, and thirteen and a half in breadth. It so nearly resembles the missel-thrush in colour, that nothing more need be remarked, than that it is inferior in size, and that the inner coverts of the wings are yellow.

The Throstle is the finest of our song-birds, not only for the sweetness and variety of it's notes, but also on account of the long continuance of it's harmony; for it favours us with it's song almost three parts of the year.

Like the missel-bird, the Throstle emits it's melody from the top of some high tree; but, in order to form it's nest, descends to some low bush or thicket: the nest is constructed of earth, moss, and straws; and the inside is curiously plaistered with clay. It lays five or six eggs, of a pale blueish-green colour, marked with dusky spots.

These birds are migratory in France: in Burgundy, they appear just before the vine-harvest, in order to feed on the ripe grapes; and are therefore called *la grive de vigne*.

**THRUSH;** the *Turdus Viscivorus* of Linnæus. This bird, called also the missel, is the largest of the genus, weighing nearly five ounces. It's length is eleven inches; and the expansion of it's wings sixteen and a half. The bill is shorter and thicker than that of other Thrushes; and dusky, except at the base of the lower mandible, where it is yellow. The head, back, and lesser coverts of the wings, are of a deep olive brown hue;



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hue; the lower part of the back is tinged with yellow; the lowest order of lesser coverts and the great coverts are brown, the first tipt with white, and the last both tipt and edged with the same colour. The quill-feathers and secondaries are dusky, but the lower part of the inner webs is white; the inner coverts of the wings are also white; and the tail is brown, the three extreme feathers tipt with white. The cheeks and throat are mottled with brown and white; the breast and belly are of a whitish yellow hue, marked with large spots of black; and the legs are yellow.

The Thrush builds its nest in some bush, or in the side of a tree; and lays four or five eggs. Its note of danger or terror is harsh and dissonant; but its song is very melodious. It begins singing very early in the spring, often with the new year, in blowing, showery weather; whence the inhabitants of Hampshire call it the storm-cock.

This bird feeds on insects, holly, and mistletoe-berries, which are the food of all the Thrush kind. During severe snowy weather, when there is a failure of their usual diet, they are observed to scratch out of the banks of hedges the root of arum, or the cuckow pint; a plant remarkably warm and pungent, and well adapted for the season.

The Thrush migrates into Burgundy in the months of October and November; in Great Britain it continues the whole year.

The ancients were of opinion that the mistletoe could not be propagated but by the berries which had passed through the body of this bird; and hence the proverb—*Turdus malum sibi cacat*.

**THRUSH, GOLDEN-CROWNED**, of Edwards; the *Motacilla Canadensis* of Linnæus. The bill of this bird is of a dusky hue, except at the base of the lower chap, which is flesh-coloured; the top of the head is of a fine golden colour; and over each eye there is a black line. The hinder part of the neck, the back, the wings, and the tail, are of a greenish brown or olive colour; but the inner coverts of the wings are whitish. The inside of the quills, and the under side of the tail, are of an ash-colour; and the throat, breast, and sides, are white, with longish black spots down the centre of the feathers. The middle of the belly, thighs, and coverts under the tail, are white; and the legs and feet are of a yellowish brown colour.

This bird builds its nest on the ground, always chusing the south side of some hill; forms its habitation after the similitude of a small oven, lining it with dry grass; and lays five white eggs spotted with brown.

**THRUSH, LITTLE**, of Edwards. This species, which weighs about an ounce and a half, remains in Carolina the whole year; but is seen only in the thickest woods and swamps. It feeds on holly-berries and haws; and is of a brown colour, except the neck and breast, which are streaked with white.

**THRUSH, GOLDEN**, of Edwards; the *Oriolus Galbula* of Linnæus. This is a bird of passage; and during summer is found in the southern parts of Europe. The bill and circles round the eyes are red; but the head, neck, body, thighs, and upper and under covert-feathers of the tail, are of a fine yellow colour. The upper sides of the wings are black, except the quills and bastard wings, which are tipt with yellow; the inner coverts of the wings are yellow; and the quills are dusky within. The middle feathers of the tail are black; and the side ones, above half way, have

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fine golden-coloured tips. The legs and feet are of a dusky black colour.

**THRUSH, BROWN INDIAN**, of Edwards; the *Turdus Canorus* of that naturalist. The bill of this species is yellow; the head, whole upper side, neck, back, wings, rump, and tail, are of a dusky brown hue; but the breast, belly, thighs, and coverts beneath the tail, are of a lightish brown, gradually mixing with a darker shade on the sides of the neck and upper part of the breast. The feathers of the wings have their edges somewhat lighter than their middles; the middle feathers of the tail are an inch longer than those of the outside; and the legs, toes, and claws, are yellow.

This bird is a native of Bengal, in the East Indies.

**THURSIO**. A fish mentioned by Pliny; supposed by some to be the phocæna, or porpessæ; and by others the sturgeon.

**THURUS**. An animal described by Gesner and others as a distinct species of wild bull; but the accounts transmitted to us seem to be either fabulous, or falsely appropriated.

**THWAITE**. See SHAD.

**THYMALLUS**. An appellation by which some express the grayling.

**TIBICEN**. A fish of the trigla kind, called by many authors lyra, or the harp-fish; and in some parts of England the piper.

The head of this fish runs out into two broad horns, serrated, or beset with a sort of teeth, or small spines, all along their edges; which constitutes its principal distinction from the hirundo or swallow-fish. Above the gill-fins on each side there is a long and sharp spine. The forehead is elevated into a sort of eye-brows over the eyes; and at the angles of these there are small short spines, which are rough and crooked. The whole head is covered with a bony crust; the jaws are rough like files, but have no distinct teeth; and the caudal fin, together with the middle of the back, are red.

This fish is commonly caught in the Mediterranean; and sometimes on the Cornish coasts. See PIPER.

**TIBURO**. In the Linnæan system, a species of squalus, with a very broad and heart-shaped head; a native of the American seas. Linnæus seems to question whether it is not a variety of the zygæna or hammer-headed shark.

**TICK**. In the Linnæan system, a species of acarus, in the aptera order of insects. It is a small, disagreeable animal, of a livid colour, with a blunt and roundish tail, elevated antennæ, a globose ovated form, and full of blood. It infests cows, swine, goats, sheep, and dogs.

**TIGEGUACU**. A Brazilian bird about the size of a sparrow, with a ridged and triangular bill. It has a large blood-red spot on the top of the head; the eyes are of a fine blue colour; the legs and feet are yellow; and the body is wholly black.

**TIGER**. An animal of the feline kind, in the Linnæan system; having a long tail, and a body marked with coloured stripes.

This is one of the most beautiful of quadrupeds. The glossy smoothness of its hair, and the extreme blackness of the streaks with which it is marked, on a ground of a bright yellow colour, strike the beholder with a kind of pleasing admiration, when joined with the idea of security. The elegance of its shape is equal to the beauty



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of its colouring. It is larger than the leopard, though more slender and delicate. But the mischievous disposition of this animal is as remarkable as its form is beautiful; as if Providence intended to shew us that beauty is of no estimation, by bestowing it on the most noxious of quadrupeds.

The Tiger is peculiar to Asia; and is found as far north as China and Chinese Tartary: but the greatest numbers, the largest, and the most formidable of these creatures, are found in India and its islands. The principal distinction of the Tiger, in which it differs from other mottled animals, consists in the form of its colours, which run in streaks, in the same direction as the ribs, from the back to the belly. On the leopard, the panther, and the ounce, the colours are broken in spots all over the body; but in the Tiger, they extend lengthwise; and hardly a round spot is to be found on its skin.

Of all animals, the Tiger resembles the cat most in shape; which, if observed through a proper magnifying-glass, will convey a tolerable idea of the former. The Tiger is the only animal whose spirit seems untameable: neither force nor flattery has the smallest effect on its stubborn nature; and with equal malignity it snaps at the hand that feeds it as that by which it is chastised. With an appearance seemingly mild and inoffensive, without either ferocity or anger in its countenance, it is fierce and savage beyond measure: correction cannot terrify it, nor indulgence tame it. The lion seldom ravages except when excited by hunger; but the Tiger is insatiable, and continues the carnage even after being glutted with slaughter. When it discovers a flock or herd, it gives no quarter; but levels all with indiscriminate rapacity, scarcely sparing time to appease the calls of hunger, so intent is it on gratifying the malignity of its nature. Animals of all kinds, whether wild or tame, fall a sacrifice to its fury; and it sometimes even ventures to attack the lion.

Tigers are one of the most terrible scourges of the countries they inhabit. They lurk among bushes on the sides of rivers; some places they almost depopulate; and seem to prefer preying on the human race rather than any other animals. They do not pursue their prey, but bound on it from their ambuscades with great agility, and from a distance almost incredible. If they miss their object, they instantly retire; but, when successful, carry it off with the greatest ease, even if as large as the buffalo: if not disturbed, they plunge their heads into the body of the animal up to the very eyes, as if through an eagerness to satiate themselves with blood.

There is a sort of cruelty in the devastations of this creature, unknown to the generous lion; as well as a kind of cowardice in its sudden retreat on any disappointment. We are informed on good authority, that, at the beginning of the present century, several ladies and gentlemen being on a party of pleasure, observed under the shade of some trees on the banks of a river in Bengal, a Tiger preparing for its fatal spring: on which one of the ladies, with amazing presence of mind, laid hold of an umbrella, and furlled it full in the animal's face; whereupon it instantly retreated, and gave the company an opportunity of withdrawing from the vicinity of so dreadful an intruder.

Another party, we are told, had not the same

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good fortune. A Tiger darted among them while at dinner, seized on one of the gentlemen, and carried him off; and he was never more heard of.

A popular notion prevails in some parts of India, that the rhinoceros and the Tiger live on amicable terms, from their being frequently seen near each other. But the truth is, the rhinoceros, like the hog, loves to wallow in the mire, on which account he frequents the banks of rivers; and the Tiger, in order to quench his raging thirst, is always found in situations contiguous to them.

Fortunately for mankind, this animal is not very common, the species being chiefly confined to the warmest provinces of the East. Some travellers have compared the Tiger to the horse, with respect to size; and others to the buffalo. Buffon informs us, that he was assured by a friend, on whose veracity he could rely, that he saw a Tiger in the East Indies of the length of fifteen feet. He probably included the tail in these dimensions: therefore, allowing four feet for that, the creature must have been eleven feet long from the tip of the nose to the insertion of the tail.

In order to give an adequate idea of the strength of this animal, we shall quote the substance of a passage from Father Frenchard, who saw a combat between a Tiger and two elephants at Siarn. It was within a lofty palisade, about one hundred feet square. At first three elephants were produced, with their heads and part of their trunks covered with a kind of armour. A Tiger was then brought forth from his den, of a size much larger than any he had ever seen. He was at first held with cords; and one of the elephants approaching, gave him several blows on the back with its trunk, with such force, that the Tiger fell, and for some time lay motionless: but, when set at liberty, though the first blows had greatly abated his fury, he made at the elephant with a loud shriek, and aimed at seizing his trunk. The elephant drew it up with great dexterity, received the Tiger on his great teeth, and threw him into the air. After this, he was discouraged from again venturing to approach the elephant: instead of which, he made several circuits round the palisade, frequently attempting to fly at the spectators. At length, three elephants were sent against him, who struck him so terribly with their trunks, that he once more lay as if dead; and undoubtedly would have been killed outright, had not the combat been suspended. Hence we may form an opinion of the strength of this animal, which, under such great disadvantages, ventured to continue the engagement against such potent enemies, covered and protected from his fury.

Captain Hamilton informs us that there are in the Sundah Rajha's dominions no less than three sorts of Tigers, the smallest of which are the fiercest. The small ones are about two feet high, the second three feet, and the larger sort above three feet and a half. But the latter, though possessing superior powers, is less rapacious than either of the former. This formidable animal is called the Tiger-royal; one of which was lately to be seen in the Tower of London.

We have no certain accounts as to the number of young which the Tigress brings forth; but it is generally said that she produces four or five at a time. Though furious at all times, her ferocity on this occasion is incredible. If robbed of her young,



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young, she enragedly pursues the spoiler, who, in order to save a part, usually drops one of her cubs. This she carries back to her den, and again pursues him: he then drops another, with which she runs to her den, as with the former; and the plunderer generally escapes with the remainder before she returns. But, if robbed of all her young, she then becomes desperate; and boldly entering the adjacent towns, commits the most dreadful slaughter.

The skin of the Tiger is much esteemed all over the East, especially in China, where the mandarins cover their seats of justice with it; but in Europe those of the panther and leopard are held in much greater estimation. The Indians sometimes eat the flesh of this animal, but do not seem to regard it as a delicacy.

The Tiger often accompanies the monuments of Bacchus; and the chair of that god is usually drawn by those animals. Tigers are also sometimes placed at the feet of the Bacchanals: a proper emblem of the fury with which they are agitated.

**TIGER, RED.** See COUGAR.

**TIGER, HUNTING, OR LEOPARD.** See LEOPARD.

**TIGER CAT.** A species of the feline genus, about the size of the wild cat, with a coat beautifully striped and varied like that of the common tiger. The tail is long, and streaked with black; the body is yellow, with black stripes above, and round black spots below; the ears are black, and each is marked with a white lunated spot.

This animal, which was first briefly described from a skin by Pennant, has been lately accurately and scientifically described by Dr. Forster. It inhabits all parts of Africa, from Congo to the Cape of Good Hope; lives in mountainous and woody tracts; and in its wild state is a great destroyer of hares, rabbits, lambs, young antelopes, and all kinds of birds. Its manners and economy are perfectly anomalous to those of our domestic cat.

**TIGER, MAN.** See MANTEGAR.

**TIGER SHELL.** An appellation by which conchologists sometimes express the red voluta, with large white spots. In the Linnæan arrangement, it is a species of the cypræa.

**TIHOL.** A name by which the natives of the Philippine Islands express a species of crane, remarkable for its size; being represented as taller than a man when standing erect and holding up its head.

**TIJEGUACU-PAROARA.** A Brazilian bird, of the size of a lark. The beak is short and thick, brown above, and white below; the head, throat, sides, and lower part of the neck, are of a fine yellow colour, variegated with red in the female, and entirely of a deep sanguine colour in the male; the upper part of the neck and the whole back are grey, with an admixture of brown; the wings are brown, tipped with white; the tail is of the same colour; and the sides of the neck, the breast, belly, and thighs, are white. This bird was first described by Marcgrave.

**TIJEPIRANGA.** A Brazilian bird of the sparrow kind, described by Marcgrave. It is somewhat larger than the lark. The whole body, neck, and head, are of a very fine red colour; and the wings and tail are black.

There is another variety, about the size of the sparrow; of a blueish grey colour on the back;

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white on the belly; of a sea-green on the wings; and pale grey on the feet.

**TIKE.** An appellation by which the natives of Zetland express the otter, an animal very common in that island.

**TINCA.** A name by which some ichthyologists express the tench.

**TINCA MARINA.** An appellation sometimes given to the common turdus; known in English by that of the wrasse.

**TINEA.** The classical name for the moth. See MOTH.

**TINNUNCULUS.** A name by which many ornithologists express a hawk of the long-winged kind; the Falco Tinnunculus of Linnæus: in English, known by the appellation of the kestrel, flannel, and windhover.

This is the hawk so frequently observed in the air, fixed in one place, and as it were fanning with its wings; at which time it is watching for its prey.

When falconry was a fashionable amusement in this country, this species was trained for catching young partridges and small birds. See FALCON.

**TIPHLE.** An appellation by which some authors express the acus, or tobacco-pipe fish.

**TIPUL.** See TIMOL.

**TIPULA.** In the Linnæan system, a genus of the diptera order of insects. The characters are these: the head is long; the upper jaw is arched; it has two bending feelers, longer than the head; and a very short recurved proboscis. Linnæus enumerates fifty-eight species.

The smaller species of this genus bear such a strong resemblance to the gnat, that the generality of naturalists, not excepting the penetrating Swammerdam, have confounded the two genera, and described these among gnats. The long form of the body, the position of the wings, and the length and structure of the legs, are the circumstances which constitute a resemblance between the gnats and the Tipulæ; but the structure and organs of the head are alone a very sufficient distinction.

As the Tipulæ differ from gnats in the structure of their mouths, and in being destitute of trunks; so they differ equally from other flies of that character by their resemblance to gnats in the figure of their bodies, in the conformation of their mouths, and in several parts and organs. The aperture of the mouth consists of a slit, extending from the fore part of the head toward the hinder part; and the lips cannot be said to be upper and lower, but lateral. When the body of the creature is pressed, this mouth opens, and discovers what may be denominated a second pair within: these are not more firmly closed than the others, and therefore only resemble certain duplications of the flesh. The exterior lips are cartilaginous, and furnished with short hairs; the interior are perfectly smooth, and of a fleshy texture. The head is of a long and slender figure: the lips are articulated at the extremity of this head; and on each side stands, on the upper part, a sort of beard, which, when closely examined, appears to be articulated in the same manner as the antennæ of other insects: the office of these beards seems to be that of a covering to the mouth; they are constantly found in every species of Tipula, and are uniform in their position.

The larger species of Tipulæ frequent meadows;



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dows; and their size is an obvious and sufficient distinction from the gnat tribe: they are often an inch in length from head to tail; their bodies being slender, and composed of nine rings. The male *Tipula* is easily distinguished from the female: it is much shorter and thicker; and the tail usually turns upwards, whereas that of the female is placed in the same direction with the body. The legs of these insects are greatly disproportioned to their bodies, especially the hinder pair, which in the larger species are usually three times the length of the body.

The larger *Tipula* is of a brownish colour; and it's corselet is so elevated, that the creature seems hump-backed. The head is small; and the neck is very short. The eyes are large and reticulated, covering almost the whole surface of the head; and are of a greenish colour, with a cast of purple. Reaumur supposes that the two very lucid specks which appear on the anterior part of the breast are eyes, though placed in so very singular a manner. The wings are long, but very narrow, and transparent, with a light cast of brown; and the ribs, when microscopically examined, appear as if beset with scales or feathers. Some species of the *Tipulæ* have them also fringed, with these scales at their edges. There are no ailerons, or petty wings; but, in their stead, two very fine balancers, or mallets, having long pedicles, and roundish or oval heads. The stigmata of the corselet are four; one pair placed immediately beneath the balancers, and the other just below the first pair of legs: the first pair are very long, and the others small. Each ring of the body is composed of two half cylinders, united by means of a membrane, which gives them an opportunity of being distended or contracted at the creature's pleasure.

All the large *Tipulæ* carry two antennæ, or horns, on their heads, composed of a number of joints, each covered with fine downy hairs; and at the juncture of each to the next there is a tuft of longer and more stiff hairs.

Such is the description of the common large *Tipula* found in meadows; which, in almost every particular, is applicable to the generality of the larger species of these insects.

The smaller kinds are very numerous, and of great variety. They are frequent in almost every place, and at every season of the year. Immense clouds of them appear in the spring; and even during the coldest winter's day they may be seen about noon, flying with the greatest facility, and almost continually on the wing.

In tracing these flies from their origin, they are all found to be produced from worms without legs, and regular scaly heads. Those from which the larger *Tipulæ* are produced, live under ground, usually about an inch from the surface; and in some places they are so extremely numerous, that the herbage is considerably damaged by them. In general, they are fond of marshy situations; nevertheless, they are not unfrequently found in the cavities of the stumps of old trees.

**TIRSIO.** An appellation by which some authors express the phocæna of Willughby; the porpelle, or marsum, of others.

**TITLARK;** the *Alauda Pratensis* of Linnæus. This bird, which is most commonly seen in low, moist places, has a delightful note, singing in all situations, on trees, on the ground, and in the air. It becomes silent about Midsummer,

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and resumes it's melody towards the month of September.

The Titlark is of an elegant, slender shape; the length is five inches and a half, and the breadth nine inches. The bill is black; the back and head are of a greenish brown colour, spotted with black; the throat and lower part of the belly are white; the breast is yellow, marked with oblong spots of black; the tail is dusky, but the exterior feather is varied by a bar of white, running across the end, and taking in the whole outmost web. The claw on the hind toe is very long; and the feet are yellowish.

**TITMOUSE.** A distinct genus of birds in the Linnæan system, of the order of passeræ: the distinguishing characters of which are; that the extremity of the tongue is truncated, and terminated by three or four bristles; and that the beak is entire, and covered with brittle feathers at the base. There are fourteen species.

**TITMOUSE, GREAT.** This bird, which is also called the ox-eye, is six inches long, nine inches broad, and about one ounce in weight. The bill is straight, black, and half an inch long; the tongue is broad, terminating in four filaments; the head and throat are black; the cheeks are white; and the back and coverts of the wings are green. The belly is of a yellowish green colour, divided in the centre by a line of black, extending to the vent; the rump is of a blueish grey; and the quill-feathers are dusky, tipped with blue and white. The lesser coverts are blue, and the greater are tipped with white. The tail is about two inches and a half long, and of a black colour, except on the exterior edges, which are blue.

Though this bird sometimes visits our gardens, it chiefly inhabits woods, where it makes it's nest in hollow trees, and lays nine or ten eggs. This, and the whole tribe of Titmice, feed on insects which they meet with in the bark of trees; but in the spring they considerably damage fruit-gardens, by destroying the tender buds. Like the woodpecker kind, they are perpetually running up and down the trunks of trees in pursuit of food.

**TITMOUSE, BLUE.** This bird frequents gardens, and greatly injures fruit-trees, by bruising the young buds in search of such insects as lurk under them. It breeds in holes of walls, and lays about twelve or fourteen eggs. The bill is short and dusky; the crown of the head is of a fine blue colour; the forehead and cheeks are white; and a black line extends from the bill to the eyes. The back is of a yellowish green hue; and the lower side of the body is yellow. The wings are blue, transversely marked with a white bar; the tail is also blue; and the legs are of a leaden colour.

**TITMOUSE, COLE, or BLACK;** the *Parus Ater* of Linnæus. The length of this bird is five inches, and the breadth seven. It is distinguished from all others of the genus by it's smallness. The head is black, with a white spot on the hind part; the back is of a greenish ash-colour; the rump is of a deep green; and the exterior edges of the principal wing-feathers are also green.

**TITMOUSE, MARSH.** This bird receives it's name from it's frequenting moist situations. In this country it generally inhabits woods, and seldom infests gardens. Willughby observes, that it differs from the cole Titmouse in being bigger, in wanting the white spot on it's head, in having a larger tail, in it's under side being white, in being



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ing less black under the chin, and in wanting the white spot on the coverts of the wings. Repeated experience, however, evinces that all these distinctions are not to be relied on.

**TITMOUSE, LONG-TAILED.** This bird is five inches and a quarter long, and the expansion of the wings seven inches. The bill is black, short, thick, and very convex, differing from all the rest of the genus; the base is beset with small bristles; and the irides are hazel-coloured. The top of the head is white, surrounded with a broad stroke of black, which rises on each side of the upper chap, passes over each eye, and unites at the hind part of the head, continuing along the middle of the back to the rump. On each side of this black stroke the feathers are of a purplish red colour, as well as those immediately incumbent on the tail. The coverts of the wings are black; and the secondary and quill-feathers are dusky. The tail is three inches long, and formed like that of a magpie, consisting of twelve feathers of unequal lengths. The cheeks and throat are white; the breast and belly are also white, tinged with red; and the legs and feet are black.

This bird builds an elegant nest, of an oval shape, about six inches deep, composed of moss, wool, feathers, and down. It lays from twelve to sixteen eggs; and the young follow the parent bird during the whole winter.

**TITMOUSE, BEARDED:** the *Parus Biarmicus* of Linnæus. This species is found in the marshes near London, and in some other parts of the kingdom. It is of the same shape as the long-tailed Titmouse, but rather larger. The bill is short, strong, very convex, and of a box colour; the irides are of a pale yellow; the head is of a fine grey; on each side of the bill beneath the eye, there is a long triangular tuft of black feathers; the chin and throat are white; the middle of the breast is flesh-coloured; the sides and thighs are of a pale orange hue; the hind part of the neck and back are of an orange bay; the secondaries are black, edged with orange; the quill-feathers are dusky on their exterior, and white on their interior sides; and the lesser quill-feathers are tipped with yellow. The tail is nearly three inches long: the two middle feathers are largest; the others gradually shorten on each side; and the extreme ones are of a deep orange colour. The vent-feathers of the male are of a pale black; of the female, a dull orange; and the legs are of a deep shining black.

The female is destitute of the black mark on each cheek, and the fine flesh-colour on the breast. The crown of the head is of a brownish rust-colour, spotted with black; and the extreme feathers of the tail are black, tipped with white.

Edwards describes this bird under the appellation of the least butcher-bird. See **BUTCHER-BIRD**.

**TITMOUSE, PARADISE,** of Edwards; the *Tanager Tatao* of Linnæus. The bill of this bird is black and dusky; and round the basis of the upper mandible the feathers are black. The top and sides of the head are covered with yellowish green feathers, in which space the eyes are placed. The hinder part of the head and neck, the beginning of the back, the tail, and the quill-feathers, with the row of coverts immediately above them, are of a deep glossy black hue. The edges of a few of the outer quills are of a fine blue colour; as are the lesser coverts, with transverse dusky

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lines. The insides of the wings are dusky, the coverts being edged with blue green. The tail has twelve feathers of a dull black colour; the lower part of the back and rump is covered with feathers of an exceeding fine bright reddish orange colour; the throat and breast are of a fine dark ultramarine blue; and the belly and thighs gradually change to a fine blueish sea-green. The middle of the belly, about the vent, and the ends of the coverts beneath the tail, are tinged with dusky; and the legs and feet are of the same colour.

This bird is a native of Guiana, in South America.

**TITMOUSE, GREEN SPOTTED,** of Edwards; the *Todos Cinereus* of Linnæus. This bird has a short bill, of a blueish black colour. The feathers of the whole body are of a very fine parrot green; but the centre of each being black, gives the bird a beautiful spotted appearance. The plumage on the throat and breast inclines to a whitish blue; the coverts within-side the wings are of a light green; the insides of the quills, and the under side of the tail, are of a dark ash-colour; and the legs and feet are dusky.

Edwards informs us, that this bird is a native of Surinam,

**TITMOUSE, GOLDEN,** of Edwards; the *Tanager Violacea* of Linnæus. The bill of this bird is black; the hinder part and sides of the head, the neck, throat, back, and wings, are of a dark shining blueish purple; the forehead, breast, belly, thighs, and covert-feathers under the tail, are of a fine bright orange colour; the upper side of the tail, and the exterior quills of the wings, are dusky or black; the inner coverts of the wings, and the inner webs of the quills towards their bottoms, are white; the interior webs of the outer feathers of the tail are white near their tips; and the legs and feet are of a dark brown colour.

This bird is also a native of Surinam; and was first figured and described by Edwards from a live specimen in London.

**TITMOUSE, BAHAMA,** of Catesby. This bird has a pretty long black bill, somewhat incurvated; the head, back, and wings, are brown; a white streak runs from the angle of the bill to the back part of the head; the breast and upper part of the wings are yellow; and the tail, which is long, is brown above, and of a dirty white hue below.

**TITMOUSE, CRESTED.** This bird is about five inches long; the expansion of the wings is eight; and the tail is two inches long. The top of the head is black, the edges of the feathers appearing somewhat white. The crest, which rises to an inch in height, sufficiently distinguishes this from all others of the genus.

**TITMOUSE, YELLOW-THROATED,** of Catesby. The bill and back part of the head of this bird are black; the throat is of a shining yellow colour, separated on each side the upper part of the head and neck by a black streak, which begins at the angle of the bill, crosses the eye, and advances to the breast. The hinder part of the head, the neck, and the back, are grey; and the wings are of a brownish grey colour. The belly is white in the middle; the sides are spotted with black; the tail is black and white; and the legs and feet are brown, and armed with very long claws, by which it is assisted in climbing trees.

**TLACOOZELOTL.** See **OCELOT**.

**TLAQUACUM.** An appellation by which



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the Spaniards express that singular animal more usually denominated the opossum.

**TLAQUATZIN SPINOSUM.** A name by which Hernandez has expressed the cuanda, a kind of American porcupine.

**TLANHQUACHUL.** A Brazilian bird, pretty nearly approaching to the nature of the European platea, or spoon-bill. It is extremely voracious, feeding entirely on live fish, and fastidiously rejecting dead ones. It is entirely of a beautiful red colour, with a black ring round the upper part of it's neck. It frequents the sea-shores, and the banks of rivers.

**TLEUQUECHOLTOTL.** A Mexican bird of the woodpecker kind; described by Nicremberg under the name of the avis salutiferus, the plumage of a red crest which adorns it's head being esteemed a specific against the head-ach.

**TOAD;** the *Rana Bufo* of Linnæus. This animal bears a strong resemblance to the frog, except that it is blacker in it's colours; and being slow and heavy in it's motions, exhibits nothing of the agility of that creature. Yet such is the force of habit, begun in early prejudice, that those who consider the frog as an harmless, playful animal, turn from the Toad with horror and disgust. The frog is considered as an useful assistant in ridding our grounds of vermin; the Toad as a secret enemy, which only seeks an occasion to infect us with it's venom.

In this manner the imagination, biased by it's terrors, delineates the Toad in the most hideous colouring, and clothes it with more than natural deformity. It's body is broad; it's back is flat; and it is covered with a dusky, pimpled hide. It's belly is large, swagging, and prominent; it's pace is laboured, and crawling; it's retreat is gloomy and filthy; and it's whole appearance is generally supposed to be calculated to excite disgust and horror: hence few can examine it without antipathy. Yet Goldsmith informs us that, on first seeing a Toad, none of it's deformities affected him with the smallest sensations of loathing; and that he even mistook it for a frog.

As the Toad bears a general similitude to the frog, so it also resembles that animal in it's nature and appetites. Like the frog, the Toad is amphibious; like that animal, it lives on worms and insects, which it seizes by darting out it's tongue; and in the same manner also it crawls about during moist weather.

The male and female couple, as in all the frog kind; their time of propagation being very early in the spring. Sometimes the females are seen on land, oppressed by the males; but they are more frequently coupled in the water. They continue together for some hours; and adhere so fast, as to tear off the very skin from the place. In all these particulars they entirely resemble the frog. But the assistance which the male lends the female in bringing forth, is a peculiarity in this species worthy of attention. A French gentleman, on the evening of a summer's day, perceiving two Toads coupled together in the king's gardens at Paris, stopped to examine them. Two facts, equally new, surprised him: the first, the extreme difficulty of the female in laying her eggs; the second, the assistance lent her by the male for that purpose. The eggs of the female lie in her body like beads on a string; and, after the first was excluded by a strong effort, the male

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caught it with his hinder paws, and kept working it till he had thus extracted the whole chain. In this manner the animal performed, in some measure, the functions of a midwife; impregnating every egg at the same time that it issued from the body.

It is probable, however, that this difficulty in parturition happens only on the land; and that the Toad, which produces it's spawn in the water, performs it as easily as the frog.

In England, the Toad propagates exactly in the same manner as the frog; and the female, instead of retiring to a dry hole, descends to the bottom of some pond, where she lies torpid the whole winter, preparing to propagate at the beginning of the spring. On these occasions the number of females is found greatly to surpass that of the other sex; there being above thirty to one; and twelve or fourteen of the former are frequently seen clinging to the same female.

When, like the frog, the young have undergone all the variations of the tadpole state, they forsake the water; and are often seen, in a moist summer's evening, crawling up by myriads from fenny places into drier situations. Having found out retreats for themselves, or dug them with their mouths and hands, they lead a patient, solitary life, seldom venturing abroad except when the evening moisture invites them. At such times the grass is commonly covered with snails, and the paths with worms, which constitute their principal food. They are also very fond of every kind of insects: and we have the authority of Linnæus to support the assertion, that they sometimes continue immoveable, with their mouths open, at the bottoms of shrubs; where the butterflies, by some unaccountable fascination, are observed to fly down their throats.

As the subsequent letter from Mr. Arscott, on the subject of the Toad, throws considerable light on it's natural history, we shall make no apology for laying it before our readers.

'Concerning the Toad,' says this gentleman, 'that lived so many years with us, and was so great a favourite, the greatest curiosity was it's becoming so remarkably tame. It had frequented some steps before our hall-door some years before my acquaintance commenced with it; and had been admired by my father for it's size, (being the largest I ever met with) who constantly paid it a visit every evening. I knew it myself for above thirty years; and by constantly feeding it, brought it to be so tame, that it always came to the candle, and looked up, as if expecting to be taken up and brought upon the table, where I always fed it with insects of all sorts. It was most fond of flesh maggots, which I kept in bran: it would follow them; and, when within a proper distance, would fix it's eyes, and remain motionless for near a quarter of a minute, as if preparing for the stroke, which was an instantaneous throwing it's tongue at a great distance upon the insects, which stuck to the tip by a glutinous matter. The motion is quicker than the eye can follow.

'I cannot say how long my father had been acquainted with the Toad before I knew it; but when I was first acquainted with it, he used to mention it as the old Toad he had known for so many years. I can answer for thirty-six years.

'This old Toad made it's appearance as soon as the warm weather came; and I always concluded it retired to some dry bank to repose till spring.



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spring. When we new-layed the steps, I had two holes made in the third step, each with a hollow of more than a yard long, for it; in which I imagine it slept, as it came from thence at it's first appearance. It was seldom provoked. Neither that Toad, nor the multitudes I have seen tormented with great cruelty, ever shewed the least desire of revenge, by spitting, or emitting any juice from their pimples. Sometimes, upon taking it up, it would let out a great quantity of clear water, which, as I have often seen it do the same upon the steps when quite quiet, was certainly it's urine, and no more than a natural evacuation. Spiders, millepedes, and flesh-maggots, seem to be this animal's favourite food. I imagine, if a bee was to be put before a Toad, it would certainly eat it to it's cost; but, as bees are seldom stirring at the same time that Toads are, they rarely come in their way; as they do not appear after sun-rising, or before sun-set.

' I once, from my parlour-window, observed a large Toad I had in the bank of a bowling-green, about twelve at noon, a very hot day, very busy and active upon the grass. So uncommon an appearance made me go out to see what it was; when I found an innumerable swarm of winged ants had dropped round his hole; which temptation was as irresistible as a turtle would be to a luxurious alderman.

' In respect to it's end, had it not been for a tame raven, I make no doubt but it would have been now living. This bird, one day seeing it at the mouth of it's hole, pulled it out; and although I rescued it, pulled out one eye; and hurt it so, that notwithstanding it's living a twelvemonth, it never enjoyed itself; and had a difficulty of taking it's food, missing the mark for the want of it's eye. Before that accident, it had every appearance of perfect health.'

To this account of the Toad's inoffensive qualities, we shall subjoin another from Valisnieri, to prove that, even taken internally, the Toad is no way dangerous.

' In the year 1692, some German soldiers, who had taken possession of the castle of Arceti, finding that the peasants of the country often amused themselves in catching frogs, and dressing them for the table, resolved to provide themselves with a similar entertainment, and made preparations for frog-fishing in the same manner. It may easily be supposed that the Italians and their German guests were not very fond of each other; and indeed it is natural to think, that the soldiers gave the poor people of the country very good reason for discontent. They were not a little pleased, therefore, when they saw them go to a ditch where Toads, instead of frogs, were found in great abundance. The Germans, no way distinguishing in their sport, caught them in great numbers; while the peasants kept looking on, silently flattering themselves with the hopes of speedy revenge. After being brought home, the Toads were dressed up after the Italian fashion; the peasants, quite happy at seeing their tyrants devour them with so good an appetite, and expecting every moment to see them drop down dead. But, what was their surprise, to find that the Germans continued as well as ever; and only complained of a slight excoriation of the lips, which probably arose from some other cause than that of their repast!

Solenander likewise relates the following story.

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' A tradesman of Rome and his wife had long lived together with mutual discontent. The man was dropsical, and the woman amorous. This ill-matched society promised soon, by the very infirm state of the man, to have an end: but the woman was unwilling to wait the progress of the disorder; and therefore concluded that, to get rid of her husband, nothing was wanting but poison. For this purpose she made choice of a dose which she supposed would be the most effectual; and having calcined some Toads, mixed their powder with his drink.

' The man, after taking a hearty dose, found no considerable inconvenience, except that it greatly promoted urine. His wife, who considered this as an incipient symptom of the venom, resolved not to stint the next dose, but gave it in greater quantities than before. This also increased the former symptom; and, in a few days, the woman had the mortification to see her detested husband restored to perfect health; and remained in utter despair of ever being a widow.'

From the foregoing relations, it will, we doubt not, be extremely evident what unjust prejudices have been entertained against this animal; and that mankind have been taught to consider as an enemy a creature which, by destroying numbers of the insect tribe, frees them from real invaders. We may therefore regard, as fables and vulgar errors, those accounts which represent the Toad as possessed of venom to kill at a distance; of it's ejecting it's venom, which burns wherever it touches; of it's infecting those vegetables near which it resides; and of it's excessive fondness for sage, which it renders poisonous by it's approach. These, and many others of the same kind, most probably originated from an antipathy which some persons have to all animals of the genus. The Toad is certainly a harmless, defenceless creature; slow, and unvenomous; and seeks the darkest retreats, not from the malignity of it's nature, but the multitude of it's enemies.

During the severity of winter, the Toad, like all the frog kind, becomes torpid. It then makes choice of either the hollow root of a tree, the cleft of a rock, or the bottom of a pond, for it's retreat, where it is sometimes found in a state of insensibility. As it is very long lived, so it is extremely tenacious of life. It's skin is tough, and not easily pierced; and the animal, though covered with wounds, continues to shew signs of life, and every part appears in motion. But for the story of it's existing whole centuries in the bosom of a rock, or cased within the body of an oak tree, without the smallest access on any side either for nourishment or air, and yet taken out alive and perfect, we can by no means account.

It would perhaps be as uncandid to contradict, as difficult to believe, relations of this sort: we have the most respectable authorities witnessing for their truth; and yet the whole analogy of nature seems to arraign them of falshood. Bacon asserts, that Toads are sometimes discovered in this manner; Plot confirms his testimony; and to this day there is a marble chimney-piece at Chatsworth having the print of a Toad on it, with a tradition of the manner in which it was found. In the Memoirs of the Academy of Sciences, we meet with an account of a Toad found alive and healthy in the heart of a very thick elm, without the smallest aperture for entrance or egress. In the



the year 1731, another was discovered in the heart of an old oak near Nantes, without the smallest avenue to it's cell; and it was generally supposed, from the size of the tree, that the animal could not have been confined there less than eighty or a hundred years, without either sustenance or air.

To all these relations we can only oppose the strangeness of the facts; the necessity this animal is under of receiving air; and it's dying like all others in the air-pump when deprived of that all-sustaining fluid. But whether these objections are of sufficient weight against such respectable and disinterested authorities, we pretend not to determine: certain, however, it is, that the Toad, if kept in a damp situation, will live for several months without any food whatever.

To this singular quality, whether real or imaginary, may be added another equally singular, and equally questionable; namely, that of Toads sucking cancerous breasts; thus extracting the venom, and effecting a cure. The first intelligence on this strange subject is contained in a letter to the Bishop of Carlisle from Dr. Pitfield, who was the first person of consequence that attended the experiment. The epistle follows:

'Your lordship must have taken notice of a paragraph in the papers with regard to the application of Toads to a cancered breast. A patient of mine has sent to the neighbourhood of Hungerford, and brought down the very woman on whom the cure was done. I have, with all the attention I am capable of, attended the operation for eighteen or twenty days, and am surprised at the phenomenon. I am in no expectation of any great service from the application; the age, constitution, and thoroughly cancerous condition of the person, being unconquerable barriers to it. How an ailment of that kind, absolutely local, in an otherwise sound habit, and of a likely age, might be relieved, I cannot say: but as to the operation, thus much I can assert, that there is neither pain nor nausea in it. The animal is put into a linen bag, all but it's head, and that is held to the part. It has generally instantly laid hold of the foulest part of the sore, and sucked with greediness till it dropped off dead. It has frequently happened, that the creature has swollen immediately, and from it's agonies appeared to be in great pain. I have weighed them for several days together, before and after the application, and found their increase of weight, in their different degrees, from a drachm to an ounce. They frequently sweat exceedingly, and turn quite pale; and sometimes they disgorge, recover, and become lively again. I think the whole scene is surprising, and a very remarkable piece of natural history. From the constant inoffensiveness which I have observed in them, I almost question the truth of their poisonous quality. Many people here expect no great good from the application of Toads to cancers; and where the disease is not absolutely local, none is to be expected. When it is seated in any part not to be well come at for extirpation, I think it is hardly to be imagined, but that the having it sucked clean as often as you please, must give great relief. Every body knows that dogs licking of sores cures them; which is, I suppose, chiefly by keeping them clean. If there is any credit to be given to history, poisons have been sucked out. *Pallentia vulnera lambit ore venena trahens*, are the words of Lucan on the occasion. If the people to whom these words are

applied did their cure by immediately following the injection of the poison, the local confinement of another poison brings the case to a great degree of similarity. I hope I have not tired your lordship with my long tale: as it is a true one, and, in my apprehension, a curious piece of natural history, I could not forbear communicating it to you. I own I thought the story in the papers to be an invention; and when I considered the instinctive principle in all animals of self-preservation, I was confirmed in my disbelief: but what I have related I saw; and all theory must yield to fact. It is only the rubeth, the Land-Toad, which has the property of sucking: I cannot find any the least mention of the property in any one of the old naturalists. My patient can bear to have but one applied in twenty-four hours. The woman who was cured had them on day and night, without intermission, for five weeks. Their time of hanging at the breast has been from one to six hours.'

Other remarks on the method by which these creatures perform this surprising operation, are these. Some Toads die very soon after they have sucked, others live about a quarter of an hour, and some much longer. For example; one that was applied about seven o'clock, sucked till about ten, and died as soon as it was taken from the breast; another that immediately succeeded continued till three o'clock, but dropped dead from the wound: each swelled exceedingly, and became of a pale colour. They did not seem to suck greedily, and often turned their heads away; but, during the time of their sucking, were heard to smack their lips like a young child.

From these relations, which seem well authenticated, and published from the purest motives of humanity, we might conclude that no room remained for doubt: and yet authorities equally respectable maintain, that there is no visible appearance of the Toad's sucking any part of the cancerous poison; though they allow, that the animal's swelling and falling off dead is a general consequence of the application.

There are several varieties of the Toad in this country, such as the land and water Toad; but the principal distinction between these seems to consist in the ground-colour of their skin. In the first, it is more inclining to ash-colour, with brown spots; in the other, the colour is brown, approaching to black. The Water-Toad is also inferior in size to the other; but both breed equally in that element. The size of the British Toad is generally from two to four inches long; though mention is made of several which have greatly exceeded those dimensions. But, in some of the tropical climates, the Toad is usually six or seven inches in length; and now and then much larger. Of these hideous creatures, some may be said to be beautifully streaked and coloured; some studded over as with pearls; others bristled with horns or spines; some with their heads distinct from their bodies; and others with such short necks, as to appear almost without heads.

These varieties, and many others which we leave the friends of deformity to enumerate, are found in the tropical climates in great abundance, particularly after showers of rain. At such seasons the streets and fields are almost wholly covered with them: they then crawl from their retreats, and disfigure every place in search of their favourite moisture.

With us, the conceit of it's raining Toads and frogs



frogs has long been justly exploded; but it is still entertained in the tropical countries, not only by the savage natives, but by the more refined settlers, who frequently add to their own the prejudices and superstitions of other nations.

It would be an endless, as well as a disagreeable task, to enter into all the minute discriminations of these animals, as found in the various climates of the globe; nor do they appear in general to differ essentially in nature and habits from each other: the pipal, or Surinam Toad, however, seems to be too singular an object in natural history to be passed over in silence.

**TOAD, SURINAM, or PIPAL.** This creature is still more hideous in it's shape than the common Toad. The body is flat and broad; the head is small; the jaws, like those of the mole, are extended, and evidently fitted for digging in the ground; and the skin of the neck forms a sort of wrinkled collar. The head is of a dark chestnut colour; the eyes are small; the back, which is very broad, is of a lightish grey colour, and seems to be covered with a number of small eyes, roundish, and arranged at nearly equal distances. These eyes are very different from what they appear, being in reality the animal's eggs, covered with their shells, and placed there for hatching: they are buried deep in the skin; and at the beginning of incubation, just begin to appear; but are very visible when the young animal is about to burst from it's confinement. They are of a reddish, shining yellow colour; and a number of small warts, resembling pearls, are dispersed over the body.

Such is their situation previous to their coming forth; but nothing is more singular than the manner of their production. The eggs, when formed in the ovary, are sent, by some internal canals which anatomists have not hitherto described, to lie and arrive at maturity under the bony substance of the back: in this state they are impregnated by the male, whose seed finds it's way by a series of pores, and pierces not only the skin but the periosteum. The skin, however, is still apparently entire, and forms a very thick covering over the whole brood; but, as they advance to maturity, at different intervals, one after another, the egg seems to start forward, and to project from the back, becoming more yellow, and at last breaking, when the young one puts forth it's head: nevertheless, it still retains it's situation, till it has acquired a proper degree of strength; and then quits the shell, but continues to adhere to the back of the parent. In this manner the Pipal travels, with her singular brood on her back, in all the different stages of maturity. Some of the strange progeny, not yet come to sufficient perfection, appear quite torpid, and as yet without life in the egg; others seem just beginning to rise through the skin, in one place peeping forth from the shell, in another entirely emancipated from their prison; some are sporting at large on the parent's back; and others descending to the ground, in order to search for their proper food, and in time to propagate their kind.

Such is Seba's description of this singular production; in which he differs from Ruysch, who affirms, that the young ones are bred in the back of the male only, where the female deposits her eggs. However, Seba's authority is generally allowed to be the best, though many circumstances are wanting to compleat his information,

such as a description of the passage by which the egg finds it's way into the back, the manner of it's fecundation, the time of gestation, as also a history of the manners of the animal itself.

The male Pipal is every way larger than the female, and the skin more flaccid. The whole body is covered with pustules, resembling pearls; and the belly, which is of a bright yellow colour, appears as if sewed up from the throat to the vent.

This creature, however hideous in it's appearance, is probably entirely harmless, like the rest of the frog kind; though we are told of terrible effects resulting from it's powder, when calcined. This, however, must certainly be false: no creature whatever, when calcined, can be poisonous; for the fire consumes every particle that could be dangerous in this composition; all animal substances, when calcined, being exactly the same both in nature and quality.

**TOBACCO-PIPE FISH;** the *Syngnathus Acus* of Linnæus. See **PIPE-FISH**.

**TOBACTLI.** An American appellation for a bird of that country described by Nieremberg, more usually denominated *Troactli*.

**TOBIANUS.** A name by which some ichthyologists express the *ammodytes*, or sand-eel.

**TOBIS** is also a name for the sand-eel.

**TOCKAY.** A species of Indian lizard, distinguished from the other kinds by being entirely covered with spots.

**TOCMOL.** An appellation sometimes given to the common mole.

**TODTENVOGEL.** A name by which Gesner, and some others, have expressed that species of *œnanthe* known in England by the appellation of the stone-chatter, stone-smith, or moor-titling.

**TODY.** A genus of the *picæ*: the characters of which are; that the bill is subulated, depressed, obtuse, straight, and beset with bristles; and the feet formed for walking.

Linnæus enumerates two species; the green, with a red breast, found in America; and the ash-coloured, with the under part of the body yellow, found in Surinam.

**TOE-SHELL.** A particular species of shell, called also *pollicipes*.

**TOMINEIO.** An appellation by which some writers express the *guainumbi*, or humming-bird. The name is supposed to be derived from *Tomino*, a Spanish word signifying a Grain, as if expressive of the minuteness and lightness of this tribe of birds.

**TOP.** An English appellation for a genus of shells, of which Pennant enumerates the following species, all natives of the British coast: the livid, the rough, the umbilical, the cinereous, the tuberculated, and the land Top.

**TOPAN.** An appellation sometimes given to the horned-beaked Indian raven, more usually denominated the rhinoceros-bird.

**TOPE;** the *Squalus Galeus* of Linnæus. Artedi distinguishes this fish from others of the squali, by it's nostrils being placed extremely near the mouth, and by certain foramina or apertures near the eyes.

The Tope has sometimes been caught on the British coasts, weighing twenty-seven pounds, and five feet in length; but, according to Artedi, it is frequently one hundred weight. The upper part of the body and fins is of a light cinereous hue; the belly is white; the nose is very long, flat,



and sharp-pointed; and behind each eye there is a small orifice. The teeth are numerous, arranged in three rows, small, sharp, triangular, and serrated on their inner edges. The first dorsal fin is upwards of a foot and a half from the head; the second is near the tail; and the tail itself is finned beneath, the upper part ending in a sharp angle.

Rondeletius informs us that this species is extremely fierce and voracious, pursuing it's prey to the very edge of the shore. The skin and flesh have an offensive, rank smell; from whence it has ironically received the appellation of Sweet William.

**TORDINO.** A name by which the Venetians express a bird of the lark kind, called also spinoletta.

**TORDO MARINO.** A bird of the starling kind; called also *ruticilla major*; and by Aldrovandus *Merula Saxatilis*. It is about the size of the common starling, and greatly resembles it in figure. The breast is greyish, with a black transverse streak; the head and back are blackish, with some slight variegations of grey; the tail is long, and of a reddish orange colour; and the under feathers of the wings are of the same hue.

The female is mouse-coloured, variegated with white, on the back; and ash-coloured on the belly.

This bird is commonly met with in Germany; and may be taught to imitate the human voice.

**TORGCH.** A name by which some authors express the charr. See CHARR.

**TORPEDO,** Cramp Fish, or Electric Ray; the *Raja Torpedo* of Linnæus.

This is a well known and formidable animal; whose narcotic, or numbing qualities, have been noticed in all ages. The body is almost circular, and thicker than others of the ray kind; the skin is soft, smooth, and of a yellowish colour, marked with large annular spots like the rest of the kind; the eyes are very small; the tail tapers to a point; and the weight of the fish is sometimes eighty pounds. From it's external appearance, none would suppose it possessed of any very extraordinary powers: it has no muscles which seem calculated for any great exertions; no internal conformation essentially different from the rest of it's kind; yet such is it's wonderful power when alive, that it instantly deprives the person who handles it of the use of that member which comes in contact with it, and even affects him if he only touches it with a stick. Oppian asserts, that it will benumb the astonished fisherman through the whole length of line and rod.

The shock given by the Torpedo resembles the stroke of an electrical machine. Kempfer gives us the following account of it: 'The instant,' says he, 'I touched it with my hand, I felt a terrible numbness in my arm, and as far as my shoulder. Even if one treads upon it with the shoe on, it affects not only the leg, but the whole thigh upwards. Those who touch it with the foot, are seized with a stronger palpitation than even those who touch it with the hand. This numbness bears no resemblance to that which we feel when a nerve is a long time pressed, and the foot is said to be asleep; it rather appears like a sudden vapour, which, passing through the pores in an instant, penetrates to the very springs of life, from which it diffuses itself over the whole body, and gives it real pain. The nerves are so affected, that the person struck imagines all the bones of his body, and particularly those of the limb that received the blow, are driven out of

joint. All this is accompanied with an universal tremor, a sickness of stomach, a general convulsion, and a total suspension of the faculties of the mind. In short, such is the pain, that all the force of our promises and authority could not prevail on a seaman to undergo the shock a second time. A negro, indeed, that was standing by, readily undertook to touch the Torpedo; and was seen to handle it without feeling any of it's effects. He informed us, that his whole secret consisted in keeping in his breath; and we found, upon trial, that this method answered with ourselves. When we held in our breath, the Torpedo was harmless; but when we breathed ever so little, it's efficacy took place.'

Though Kempfer has given an accurate description of the effects produced by the shock of this creature, experience has proved, that holding in the breath will not preserve from it's violence; and yet the fish may sometimes be touched with perfect security.

Great as the powers of the Torpedo are when in vigour, they are impaired as it declines in strength, and totally cease when it expires. We also hazard a conjecture, which those who have an opportunity may bring to the test of experience, that a frequent repetition of the stroke weakens it's efficacy; and that it might be totally exhausted of it's electric power for some little space, till it could gain time to recruit it's strength afresh.

The noxious qualities of the Torpedo by no means affect it's flesh; for it is frequently eaten by the French and other nations. Galen affirms, that it is serviceable to epileptic patients; and that the shock of the living fish, applied to the head, is efficacious in removing any pains in that part.

There is a double use in this strange faculty with which the Torpedo is endued: it is exerted as a means of defence against voracious fish, which by a single touch are deprived of all possibility of seizing their prey; and, by concealing itself in the mud, and benumbing such fish as are carelessly swimming about, it makes a ready prey of them.

The Torpedo is a native of the Mediterranean and many other seas; and is not unfrequently found on the British coasts, though it seems to be more peculiarly attached to warmer climates.

The female Torpedo is generally supposed to be much more powerful than the male. Lorenzini, who made several experiments on this animal, is of opinion that it's power is wholly resident in two thin muscles which cover a part of the back; these he calls the trembling fibres: and he seems convinced that the animal may be touched with safety in any other part. It is now generally known that there are other fish of the ray kind possessed of this benumbing quality, which has gained them the appellation of the Torpedo. Atkins and Moore describe these as shaped like the mackerel, except that the head is considerably larger.

Condamine describes a fish possessed of the powers of the Torpedo, of a shape very different from the former, and greatly resembling a lamprey. He also informs us that, if touched by the hands, or even with a stick, it instantly benumbs the hand and arm to the very shoulder.

The subsequent experiment made by Mr. Walsh, in presence of the Academy of Rochelle, for evincing the circuit of the electric matter issuing from the Torpedo, deserves attention.

A living Torpedo was laid on a table, on a wet napkin;



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napkin; round another table stood five persons insulated; and two brass wires, each thirteen feet long, were suspended from the ceiling by silken strings. One of the wires rested by one end on the wet napkin; and the other end was immersed in a basin full of water, placed on a second table, on which stood four other basins, likewise full of water. The first person put a finger of one hand into the water in which the wire was immersed, and a finger of the other hand into the second; and so on successively, till all the five persons communicated with one another by the water in the basins. In the last basin one end of the second wire was dipped, and with the other end Mr. Walsh touched the back of the Torpedo; when the five persons felt a shock, differing in nothing from that of the Leyden experiment, except in being weaker. Mr. Walsh, who was not in the circle of conduction, felt nothing. This was several times successively repeated, even with eight persons. The experiment being related by M. de Signette, mayor of the city, and one of the secretaries to the Academy of Sciences of Rochelle, and published by him in the French Gazette; the account is therefore sufficiently authenticated.

Aristotle affirms that the Torpedo brings forth it's young at the autumnal equinox. A gentleman of Rochelle, on dissecting certain females of this species the 10th of September, found in the matrices several of the fœtules quite formed, and nine eggs, in no state of forwardness: superfœtation seems therefore to be a property of this fish.

The ingenious Mr. Pennant speaks thus of a small Torpedo, caught on the British coasts. 'It's length,' says he, 'was eighteen inches from the head to the tip of the tail; the greatest breadth twelve inches. I could not inform myself of the weight of this; but that of one, measuring four feet in length, and two and a half in breadth, was fifty-three pounds avoirdupoise.

'The tail was six inches long, pretty thick and round; and the caudal fin broad and abrupt. The head and body, which were indistinct, were nearly round; about two inches thick in the middle, attenuating to extreme thinness on the edges. Below the body, the ventral fins formed on each side a quarter of a circle. The two dorsal fins were placed on the trunk of the tail. The eyes were small, placed near each other; and behind each was a round spiracle, with six small cutaneous rays on their inner circumference. The mouth was small; the teeth were minute and spicular; and there were two openings to the gills, as in others of this genus. The skin was every where smooth; of a cinereous brown hue above; and white beneath.'

**TORQUATA.** An appellation by which many naturalists express the common water-snake; so called from the remarkable ring about it's neck.

**TORQUILLA.** A species of woodpecker; more commonly known by the appellation of the jynx; in English, the wry-neck.

**TORTOISE.** A distinct genus of animals of the class of amphibia, and order of reptiles, in the Linnæan system: the characters of which are; that the body has four feet, is defended by a thick crust, and furnished with a tail; and the mouth has naked mandibles without teeth. Linnæus enumerates fifteen species.

Tortoises are usually divided into those which

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live on the land, and such as subsist in the water: and custom has made a distinction even in the name; the one being called Tortoises, the other Turtles. Seba, however, has proved, that all Tortoises are amphibious; that the Land-Tortoise will live in the water; and that the Sea-turtle can be fed on the land.

The Land-Tortoise is generally from one to five feet long, from the end of the snout to the extremity of the tail; and from five to eighteen inches across the back. It has a small head, somewhat resembling that of a serpent; and an eye without the upper lid, the under eye-lid serving to cover and keep that organ in safety. The tail is long and scaly, like that of a lizard; and the head may either be protruded, or concealed under the great pent-house of it's shell, at the pleasure of the animal.

All Tortoises nearly resemble each other in their external shape; their outward covering appearing to be composed of two great shells, one laid on the other, and touching only at the edges: but, on a closer inspection, we shall find that the upper shell is composed of no less than thirteen pieces, laid on the ribs like the tiles of a house; by means of which the shell is kept arched and supported. Indeed, to an inattentive observer, the shells, both above and below, seem to make each but one piece; but they are bound together at the edges by very strong and hard ligaments.

The Tortoise, though peaceable in itself, is admirably formed for war, and seems to be almost endued with immortality. Hardly any species of cruelty can deprive it of life: mangling and maiming are but slight injuries; and it will live though deprived of the brain; nay, even of the head. Redi informs us, that he made a large opening in the head of a Land-Tortoise; drew out all the brains; so washed the cavity, as not to leave the smallest part remaining; and then, leaving the hole open, set the animal at liberty: notwithstanding all this, the Tortoise marched off, without seeming to have received the smallest injury; and lived in that state for six months. A certain Italian philosopher carried his experiment yet farther; for he cut off the head, and yet the animal lived twenty-three days after it's separation from the body.

Tortoises are also remarkable for their longevity; they are commonly known to live upwards of eighty years; and one kept in the garden belonging to Lambeth Palace was remembered above one hundred and twenty. The Tortoise retires to some cavern, in order to repose during the winter; and at that season, when it's food is no longer found in plenty, it happily becomes insensible to the want. It is sometimes buried two or three feet under ground; having first providently stored it's hole with moss, grass, and other substances; as well to keep the retreat warm, as to serve for aliment in case it should prematurely emerge from it's stupefaction. From this dormant state the Tortoise is awakened by the genial return of the spring.

These animals are frequently admitted into gardens, on a supposition that they destroy insects and snails in great abundance. Their strength is so prodigious, that a child has been known to get on the back of one, and yet not retard it's activity; but, when it had carried it's burden to the place where it expected to be fed, nothing could prevail on it to advance any farther.

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For a description of the Sea-Tortoises, see **TURTLE**.

Two of the most curious species of Land-Tortoises are the following.

**TORTOISE, AFRICAN.** This species, which was accurately figured and described by Edwards, is the *Testudo Puzilla* of Linnæus. It was imported from Santa Cruz in West Barbary, and lived several years in the garden of the College of Physicians, London. The irides are of a reddish hazel colour; the lips are hard and corneous; the head is covered with yellowish-coloured scales; the neck, hinder legs, and tail, are covered with a flexile skin of a dull flesh-colour; and the fore-legs with yellow scales on their outsides, being partly exposed when the head is drawn in. The shell is round, pretty prominent on the upper side, and flat underneath: it is divided into many compartments, or separate scales, with furrows or creases all round, lessening one within another to the middle of each scale. The shell is of a yellowish colour, clouded with large and small irregular dusky or black spots. There are five claws on each foot forwards; and four on each of the hinder feet.

When this creature is apprehensive of any danger, it draws it's head, tail, and legs, into the shell; a quality it possesses in common with the rest of the genus.

**TORTOISE, AMERICAN;** the *Testudo Carolina* of Linnæus. This animal is a native of Carolina, and other parts of America. It's head is invested with a hard shelly covering, of a dark brown colour on the top; on the sides and throat it is yellow, with small black or dusky spots; the nostrils are placed very near each other, not far from the extremity of the beak; the eyes are of a yellowish colour; the neck is covered with a loose skin, of a dark purplish flesh-colour, partly covering the head when not fully extended; the hinder legs, and parts about the vent, are covered with the same coloured skin as the neck; and the fore-legs and feet with yellow hard scales. There are five toes on each of the fore-feet; but only four on the hinder; all armed with pretty strong dusky claws.

The upper part of the shell is pretty convex, divided into separate scales; and each scale is engraven, as it were, with rings round it's extremities, which lessen inwards to it's centre. The shell is of a dusky brown colour above, with yellowish spots of various forms; underneath it is flattish, of a yellowish colour, with black clouds and spots; and there is no tail.

Both this and the African Tortoise are small species of that kind to which the English resident in those countries give the appellation of *Turapins*.

**TOTANO, OR TOTANUS.** A term by which some ornithologists express a bird more commonly called *vetola*; frequent in Italy.

In the Linnæan system, the *Totanus* is a species of the *Scelopax*, the *crex* of authors in general. See **RAIL**.

**TOTAQUESTAC.** An American bird described by Nieremberg. It is somewhat smaller than the pigeon: the whole plumage is of a beautiful green colour; and the tail-feathers, which are prodigiously long, are much valued.

This beautiful bird is in such high estimation among the Indians, that it is death by their laws to kill it: however, they do not scruple to strip it

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of it's elegant plumage whenever they can catch it.

**TOTTAVILLA.** A name by which some ornithologists express the *alauda arborea*, or common wood-lark.

**TOUCAN.** A genus of birds of the order of *picæ* in the Linnæan system: the characters of which are; that the bill is very large, convex, and serrated on the edges; both mandibles are bent at the apex; the nostrils are situated near the base of the bill; the tongue is feathered about the edges; and the feet are formed for climbing.

Linnæus enumerates eight species, most of which are natives of South America.

**TOUCAN, RED-BEAKED;** the *Ramphastos Tucanus* of Linnæus. The shape of this bird resembles that of the jack-daw; and the size is nearly the same. The head is very large, and well calculated to support it's enormous bill, which, from the base to the point, is six inches and a half in length, and in the thickest part exceeds two inches in breadth: it's thickness near the head is one inch and a quarter; it is a little arched or rounded along the top of the upper chap; and the under side is also rounded. The whole substance of the bill is extremely slight, and almost as thin as parchment. The upper chap is of a bright yellow colour, except on the sides, which are of a beautiful red; as is also the lower chap, except at the base, which inclines to a purple. There is a black line of separation quite round the base of the bill, between that and the head. The nostrils are situated in the upper part of the bill, and almost covered with feathers. Round the eyes, on each side of the head, there is a space of blueish skin, destitute of feathers; above which the head is black, except a white spot on each side joining to the base of the upper chap. The hind part of the neck, the back, wings, tail, belly, and thighs, are black; the under-side of the head, the throat, and the upper part of the breast, are white; a series of red plumage, in the form of a crescent, with it's horns upwards, appears between the white on the breast and the black on the belly; the covert-feathers under the tail are red, and those above it are yellow; the legs, feet, and claws, are ash-coloured; and the toes are disposed like those of parrots, two before and two behind.

Travellers assure us that, notwithstanding this bird is furnished with such a formidable beak, it is very gentle and inoffensive; and so easily tamed, that it will sit and hatch it's young in houses. They also inform us, that it feeds principally on pepper; which it devours very greedily, gorging itself in such a manner, as to exclude it crude and un concocted. Whatever degree of credit this account may deserve, certain it is that the *Toucan* lives principally on a vegetable diet; and, in a domestic state, it is known to prefer such food before any other. Pozzo, who bred up one of these birds tame, says it leaped up and down, moved it's tail, and cried with a voice resembling that of a magpie. Any thing on which parrots feed, seemed to be agreeable to it; but it shewed the strongest predilection for grapes, which, if plucked off singly, and thrown into the air, it would catch with great dexterity before they fell to the ground. This gentleman farther informs us, that it's bill was hollow and extremely light, and consequently it possessed no proportionable strength to it's appearance; but it's tongue seemed to assist the efforts of this unwieldy machine. This member is long,



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long, thin, and flat, and moves up and down; and the animal often extends it five or six inches from the bill: it is of a flesh-colour; and curiously fringed on each side with very small filaments, exactly resembling a feather.

It appears evident that this long tongue is stronger than the thin hollow beak that contains it: and probably the beak is only a kind of sheath for this peculiar instrument, which the Toucan employs not only in forming it's nest, but also in procuring it's food.

The Toucan has not only men, birds, and serpents, to guard against; but also a numerous tribe of monkeys, still more prying and mischievous. It therefore scoops out it's nest in the hollow of some tree, leaving a hole just large enough for ingress and egress: there it sits, guarding the entrance with it's great beak; and if a monkey, prompted by curiosity, or any other motive, presumes to pay the Toucan a visit, he usually meets with such a reception as compels him to seek for safety in a speedy retreat.

This bird inhabits only the warm climates of South America, where it is much esteemed for the delicacy of it's flesh and the beauty of it's plumage. The feathers of the breast are particularly admired: and the Indians pluck off the skin of this part, which, when dry, they glue to their cheeks; considering it as an irresistible addition to their beauty; and every woman conceiving herself happy in the possession of it.

**TOUCAN, BRAZILIAN;** the *Ramphastos Piscivorus* of Linnæus. This species is about the size of the common tame pigeon; but the head is much larger in proportion; and the tail, which is composed of feathers of an equal length, is rather short. The bill is six inches long; it's greatest depth is upwards of two inches; and from side to side, near the head, it is one inch thick. The upper mandible is of a pale yellow greenish colour; the sides near the toothed edges have each a long cloud of orange, transversely barred with black: the lower mandible is of an exceeding fine blue colour; and the point both of the upper and lower chap, for above an inch in depth, is of a fine scarlet hue. The nostrils are almost invisible, being situated pretty near together in the upper part of the bill, exactly in the line that separates the bill from the forehead; and the eyes are of a dark hazel colour, encircled with a bare skin of a greenish yellow. The top of the head, the upper side of the neck, the back, wings, belly, thighs, and tail, are black; but the wings have a changeable lustre. The sides of the head, the throat, and the breast, are white, or rather cream-coloured; and between the white on the breast and the black belly there is a fine red crescent, with horns pointing upwards. The rump, or coverts on the upper side of the tail, are white; the feathers beyond the vent, as well as those which cover the under side of the tail, are of a pale red hue; and the legs, feet, and claws, are of a light blue or violet colour.

This bird was first figured and described by Edwards.

**TOUCAN, YELLOW-BREASTED;** the *Ramphastos Viridis* of Linnæus. Like the rest of the genus, the bill of this bird is extremely large; the upper mandible is green, and the lower blue; the point is red; and it has five transverse faint dusky bars. The irides are of a faint green colour; and round the eye there is a broad space of naked skin of a

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violet colour. The throat and breast are of a bright yellow; below which there is a bar of scarlet feathers, which divides the yellow on the breast from the black on the belly. The coverts of the tail are white above, and beneath of a fine red colour. The crown of the head, the upper part of the neck, the back, wings, belly, and tail, are wholly black; but the upper side of the wings and tail has a variable gloss of blueish purple.

**TOUCAN, GREEN.** This bird, which seems to correspond with the Toucan à Collier de Cayenne of Brisson, was first accurately figured and described by Edwards. The bill is blackish, except at it's base, which is red round the upper mandible, and yellow round the lower; the eyes are placed in spaces of bare skin, of an obscure flesh-colour; and the head, neck, and breast, are black, with several changeable glosses. About the place of the ears, on each side, there is an oval spot of a gold-colour; and at the bottom of the neck behind, the black is terminated with a narrow golden crescent, the horns of which tend upwards. The back, rump, wings, and tail, are of a fine green colour, except the tips of the tail-feathers, which are reddish, and the tips of the quills, which are dusky. The inner coverts of the wings are cream-coloured; and the quills within are light-coloured, with light edges. The tail is composed of ten feathers, long in the middle, and gradually shortening towards the sides; ash-coloured beneath, and tipped with brown. The belly is of an olive green hue, with a transverse confused mixture of dusky; the thighs are of a reddish brown colour; and the legs, feet, and claws, are all of a deep black.

**TOURACO;** the *Cuculus Persa* of Linnæus. This bird, which was beautifully delineated by Edwards, is about the size of a magpie; and very elegant both in shape and colour. The bill is short, and compressed sideways; the upper mandible is a little arched; the under side of the lower mandible has a small angle; and both the upper and lower chaps are of a dirty red or brick colour. The eye is of a dark hazel-colour, encompassed with a skin of a bright scarlet hue. From the corner of the mouth to the eye there is a broad black line, which grows narrower, and extends itself under and beyond the eye, beneath which is a white line; and from the corner of the mouth another white line extends above the eye. The head, neck, breast, and lesser coverts of the wings, are of a fine dark green colour; and the head is adorned with a crest, the tips of which are red. The thighs, lower belly, and coverts under the tail, are dusky or black; the back, wings, and tail, are of a fine blueish purple colour; part of the greater quills, next the belly, are of a fine crimson colour; the tips and borders of the outer webs are black; and the legs, feet, and claws, are ash-coloured.

Albin calls this the Crown-bird from Mexico; though it is most probably a native of Africa, and only imported hither by way of the West Indies.

**TRACHIDNA.** An appellation by which some ichthyologists express the draco marinus; in English, the weever.

**TRACHINUS.** A genus of fishes, in the Linnæan system, of the order of jugulares: the characters of which are; that the head is compressed, and not smooth; the membrane of the gills has six rays; the lower lamina of the opercula is serrated; and the anus is situated near the breast.



# TRI

Linnæus mentions only one species, the draco. Artedi refers the uranoscopus to this genus. The term is derived from the Greek Tracheinos, Rough, Sharp, or Prickly; expressive of the prickly roughness of the rays of the dorsal fin.

**TRACHURUS.** A fish of the scomber kind; in English, the scad, or horse-mackerel.

**TRACHURUS BRAZILIENSIS.** An appellation by which Ray expresses a fish of the scomber kind; the Scomber Cordyla of Linnæus; more commonly denominated Guaraterêba.

**TRAGELAPHUS.** An animal of the goat-kind; of which there are two species, the one described by Gesner, and the other by Bellonius.

**TRAGUM.** A term whereby Aristotle, and some of the ancient ichthyologists, express the pistinacha marina of the more modern writers; in English, the fire-flare and sting-ray.

**TRASCINA.** A name by which some ichthyologists express the fish more usually denominated draco marinus and araneus.

**TREBIUS.** An appellation given by some modern writers to the Phycis of Aristotle, Ælian, and Pliny.

**TRIANGULAR FISH.** A marine fish of a very singular figure, called in English the coney-fish; of which there are two species, the one having two horns, the other wanting that character.

The horned species is sometimes six inches long, and three broad; the tail ends in a longish fin; the mouth is small, with twelve strong serrated teeth in the upper jaw, and eight larger ones in the lower; the head rises gibbously from the mouth to the horns; and the back is humped in the middle. It has only one small fin near the tail; but there are four others on different parts of the body. The eyes are large, and placed near the horns, which grow straight out of the forehead. It has no scales; but a hard skin, white on the belly, and brown every where else, very curiously marked with trigonal, tetragonal, pentagonal, and hexagonal figures.

The species destitute of horns has a broader belly, and longer tail; and is marked over the whole body with hexangular figures only, and innumerable small tubercles. The belly is yellowish; and the rest of the body is of a greyish yellow hue. The mouth is narrow; the teeth are small, five in the lower, and eleven in the upper jaw; and the eyes are large and round.

Both these species belong to the genus of ostracion in the Linnæan system. They are caught among the rocks on the shores of the Isle of Java; and are sometimes eaten by the natives, after being skinned.

**TRIBULUS MARINUS,** the Caltrop Shell. A peculiar species of purpura, of a whitish colour, with three rows of spines.

**TRICHECUS.** In the Linnæan system, a genus of the order of bruta, and class of mammalia: the characters of which are; that it has no cutting-teeth; that it has tusks only in the upper jaw; that the grinders on both sides are formed of a rugged bony substance; that the lips are germinated; and that the hinder feet are formed into fins. There are two species; the manati, or sea-cow; and the morse, or walrus.

**TRICHIDES.** An appellation by which the ancients expressed a fish of the harregiform kind, probably the pilchard; called also sardinia and sardella.

**TRICHIURUS.** A genus of the order of

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spodes: the characters of which are; that the head is extended, with lateral opercula; that the teeth are ensiform, and semi-sagittated at the apex; that it has seven branchiostegous rays; that the body is compressed and ensiform; and the tail subulated, without any fin: whence it is called lepturus; in English, the needle-tail. There is but one species; the Indian Eel of Willughby, or Mucu of Brazil.

**TRICHOURI.** A term by which some naturalists express such flies as have one or more hairs growing out of their tails: they are also called seticaudæ.

**TRIDACNÆ.** A genus of bivalve shells.

**TRIEMERUS,** the Three-day Fly. An insect somewhat resembling a butterfly. It has four large yellowish wings; a long body; a head furnished with long antennæ; large eyes; and a spiral trunk. It is found among nettles and mallows.

**TRIGLA.** A genus of fishes, of the order of thoracici; of which Linnæus enumerates nine species.

According to Artedi, the characters of this genus are the following: the branchiostege membrane contains several bones; the head is very declivious from the eye to the extremity of the snout, large, aculeated, and squarish; it is the broadest part of the fish; and thence grows gradually narrower, till it ends in a very small tail; and in several species of this fish there are two or three articulated appendices growing under the pectoral fins. The eyes, which are situated on the top of the head, are covered with a skin; there are two dorsal fins, the first of which is prickly; and the pectoral fins, in some kinds, are very large.

Many of these fish are capable of emitting a noise; and some of them, by the assistance of their pectoral fins, can suspend themselves for a time out of the water, and fly to some distance. The appendices of the pylorus are from five to twenty in number.

There are seven species of Trigla with continuous, obtuse, and undivided snouts; among which is the red Trigla, with the snout divided into two small horns, and the opercula of the gills striated: this is the cuculus and lyra of some ichthyologists. When taken out of the water, it makes a grunting noise, supposed to imitate that of a cuckow, from whence it receives one of its names.

Of those Trigla, with the snout very deeply divided, and opened into two very broad parts, there are three species.

**TRINGA,** Sand-Piper. A distinct genus of birds of the order of grallæ: the distinguishing characters of which are; that the beak is roundish, and of the length of the head; that the nostrils are linear; and that the feet have each four toes, the outer being generally connected at bottom by a small membrane.

Linnæus enumerates twenty-three species; among which are the pugnax avis, or ruffe; the vanellus, or lapwing; the gambetta; the turnstone; the phalarope; the flint; and others.

**TRISACTIS.** An appellation by which some authors express a genus of star-fish composed of a body and three rays only.

**TRISCÆDEACTIS.** A name sometimes used to express a kind of branched star-fish, with thirteen rays, each of which is divided and subdivided into numerous others.

**TRISETÆ.**



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**TRISETÆ.** A term by which some writers on insects express a certain genus of the seticaudæ, or bristle-tailed flies; distinguished from the rest by having three hairs or bristles proceeding from the tail.

**TRISEUS.** An appellation by which some ichthyologists express that species of gadus more usually denominated the mustela fluviatilis, or eelpout.

**TRITON.** In the Linnæan system, a genus of the mollusca order of worms: the characters of which are; that the body is oblong, and the tongue spiral; and that the tentacula are twelve in number and bipartite, six on each side, and the three hinder ones cheliferous.

There is only one known species, found in the clefts of submarine rocks.

**TRITON AVIS.** A name by which Nie-remberg has described a West Indian bird famous for its musical qualities. It is said to have three distinct notes; and to be able to give breath to sounds of all the three kinds at the same time. It is also much celebrated for its beauty.

**TROCHILUS.** In the Linnæan system, a genus of the picæ, comprehending the polytmus and mellifuga of Brisson; the former including sixteen, and the latter twenty species. See HUMMING-BIRD.

**TROCHILUS** is also an appellation used by Aristotle, and other ancient naturalists, for the regulus cristatus, or golden-crowned wren.

**TROCHILUS** is likewise the name of a remarkable aquatic bird, called Coriza by the Spaniards. It is described by Aldrovandus as being very long-legged, yet web-footed. Its beak is straight, and black at the end; and the opening of the mouth is very wide. The under part is white; and the back, shoulders, and wings, are ferruginous. It runs swiftly.

**TROCHUS.** An appellation by which some conchologists express a genus of shells; some species of which resemble the Trochus or top. However, as the species are numerous, many of them bear very little resemblance to the plaything from which they receive their name: a late French writer has therefore more aptly characterized the genus by calling it Cochlea ore depresso.

According to Linnæus, the characters of this genus are the following: the inclosed animal is a slug; the shell is univalve, spiral, and conical; the aperture is subtetragonous, angular, or roundish; and the columella or axis is oblique. He enumerates twenty-six species.

The Trochi or Tops constitute the fifteenth family of shells in Da Costa's ingenious arrangement. He defines them to be shells of a conic or pyramidal shape, the top being broad and flattish, and gradually tapering thence to a very narrow point; and the aperture or mouth generally angular, low, and narrow.

This is a numerous family; and consists of many beautiful and curious shells.

**TROCTUS.** An appellation by which Aristotle, and other ancient writers, express a species of scomber; distinguished from others of the kind by the name of the scomber with two dorsal fins, and the last ray of the hinder fin very long.

**TROGLODYTES.** A term by which the wren is sometimes expressed.

**TROGON, Curucui.** A genus of the picæ: the characters of which are; that the bill is shorter than the head, cultrated, hooked, and serrated at

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the margin of the mandibles; and that the feet are formed for climbing, having two toes forward, and two backward. There are three species of this genus; one of which is the Curucui of Brazil.

**TROMBETTA.** An Italian appellation for the scolopax of some ichthyologists. See TRUMPET-FISH.

**TROUT.** A well-known valuable river-fish: the distinguishing characters of which are; that the body is long; the head short and roundish; the extremity of the snout obtuse and blunt; the tail very broad; the mouth large; and each jaw furnished with a single row of sharp teeth: that in the palate there are three parcels of teeth, each of an oblong figure in the congeries, all meeting in an angle near the end of the nose; that the tongue also is furnished with six, eight, or ten teeth; and the sides beautifully variegated with red spots.

It is worthy of observation, that this fish, so universally disseminated, is unnoticed by any of the ancients except Ausonius; and it is also equally singular, that so delicate a species should be neglected at a time when epicurism was arrived at an excess which it never can surpass.

The colours of the Trout, and its spots, vary greatly in different waters, and in different seasons; yet all may be reduced to one species. In Llyn-divi, a lake of South Wales, there are Trouts denominated coch y dail, marked with large red and black spots; others are unspotted, and of a reddish hue, that sometimes weigh near ten pounds, but their flesh is little esteemed. In Lough Neagh, in Ireland, there are Trouts called buddaghs, some of which weigh thirty pounds; others of a much superior size are taken in Hulse-water, a lake in Cumberland, supposed to be of the same kind with the Trouts in the Lake of Geneva; and in the River Enyion, in North Wales, there is a variety of the Trout, having a remarkable obliquity near the tail.

It has been remarked that the stomachs of common Trouts are uncommonly thick and muscular; as they feed on the shell-fish of lakes and rivers, as well as small fish; and swallow gravel or small stones, for the purpose of comminuting the testaceous parts of their food. The Trouts of certain lakes in Ireland are remarkable for the thickness of their stomachs, which, from some slight resemblance to the organs of digestion in birds, are called gizzards; and the species that contain them are called gillaroo, or gizzard Trouts. However, from the observations made by Dr. Watson and Mr. Hunter, there seems to be no reason for considering the stomachs of these Trouts as gizzards, but as true stomachs. That of the English Trout is of the same nature with the stomach of the gillaroo Trout, except that its coat is only about one-third as thick; a circumstance that seems to arise from the nature of the waters in which the different varieties reside. These stomachs are sometimes served up at table in Ireland under the name of gizzards.

Trouts are extremely voracious, and afford excellent diversion to the angler. They shift their quarters when about to spawn; and, like salmon, make towards the heads of rivers, in order to deposit their roes. The under-jaw of the Trout is subject, at certain times, to the same curvature as that of the salmon.

**TROUT, WHITE.** Pennant has described a species under this appellation, which migrates from the sea into the River Esk, in Cumberland, from



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from July to September. When dressed, it's flesh is red, and very delicious. On it's first appearance from the salt water, the salmon-loose is found adhering to it's body. It has both milk and spawn; but no fry has ever yet been discovered.

The White Trout never exceeds one foot in length: the upper jaw is somewhat longer than the lower; in the first, there are two rows of teeth, in the last, but one; and on the tongue there are six teeth. The back is straight; the whole body is of an elegant form; the lateral line is straight; the colour between that and the top of the back is dusky and silvery intermixed; and beneath the line, of an exquisite silvery whiteness. The first dorsal fin, which is spotted with black, has eleven rays; the pectoral has thirteen; the ventral and anal have nine each; and the tail is black, and much forked.

**TROUT, SEA;** the *Salmo Trutta* of Linnæus. This fish, which some suppose to be synonymous with the salmon, bull, or scurf Trout, an obscure species described by Willughby, like the salmon, migrates up several of our rivers; where it spawns, and returns again to the sea. It is thicker than the common Trout: the irides are silvery; the head is thick, smooth, and dusky, with a gloss of blue and green; and the back is of the same colour, growing fainter towards the lateral line. The back is plain; but the sides, as far as the lateral line, are marked with large, distinct, irregularly shaped black spots. The lateral line is straight; the sides and belly are white; and the tail is broad, and even at the end. The dorsal fin consists of twelve rays; the pectoral of fourteen; the ventral of nine; and the anal of ten. The flesh, when boiled, is of a pale red colour, and extremely well flavoured.

**TRUFFLE-WORMS.** A species of fly-worm found in truffles, on which it feeds till it undergoes the common metamorphosis of such creatures.

These very small insects have two brown spots near their hinder extremity, being the two posterior stigmata. They are wholly white, and very transparent; and the two black stalks of their two hooks, with which they tear the substance of the truffle, may be easily distinguished. When they have arrived at their full growth, which is usually in a few days, they quit the truffle, and go in quest of some proper retreat, where they may remain undisturbed during the time of their transformation. In the space of twelve hours they are generally transformed into an egg-shaped shell, of a chestnut brown colour, and of the same nature with that of the blue flesh-fly.

These worms are in a manner peculiar to truffles.

**TRUMPE.** An appellation by which some English writers express that species of whale to which Linnæus gives the name of the *Physeter Microps*, the blunt-headed cachalot. The Dutch call this species the pot-whale-fish.

**TRUMPET-FISH,** *Scolopax*, or Bellows-Fish. In the Linnæan system, a species of the *centricus*; but, in the Artedian, a kind of the *balistes*.

This small fish is commonly caught in the Mediterranean. It's usual length is about three inches; it's body is flat, and covered with rough, harsh scales; it's snout is extremely long, hard, straight, broad at the head, and narrow at the end, where it opens transversely by means of a

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membrane affixed to the under jaw, which serves to open and shut it at pleasure. The eyes are large; the irides are of a pale red colour; and at each of the gills there is a thin fin. The anterior part of the body, which is formed into a sharp edge, has two bony substances instead of fins; and another below on the belly, which is lower, and notched. Behind the anus there is a long fin, reaching to the tail; and on the back are two others; the one near the tail; and the other a long and large bony spine, set in a joint, and moveable at pleasure: before this there is another fine prickly; and behind it three more, which, taken collectively, constitute a kind of fin.

**TRUMPET-SHELL, or WHELK;** *Buccinum*. A large genus of shells: the characters of which are; that the shells are univalve, and shaped like a trumpet; that they have a distinct and regular tail, usually long, though sometimes short; a crooked beak; and the clavicle often elevated, though sometimes depressed and contracted.

According to Linnæus, the characters of this genus are these: the inclosed animal is a slug; the shell is univalve, spiral, and gibbous; and the aperture oval, terminating in a short canal or gutter. He enumerates fifty-one species.

For Da Costa's arrangement of the *Buccina*, see SHELLS.

**TRUMPETER.** An English appellation for a particular species of pigeon; the *Columba Tibicen* of Moore.

This species is nearly of the size of the common pigeon: it is pearly eyed; of a mottled black colour; feathered down the legs and feet; turn-crowned like the nun, and sometimes like the finnikin.

The most distinguishing character is a tuft of feathers at the root of the beak; and, the larger this tuft, the more highly is the bird esteemed.

These pigeons receive their names from their cooing in some respects imitating the sound of a trumpet; but, in order to be often entertained with their melody, if we may credit Moore, they must be frequently fed with hemp-seed.

**TRUMPETER** is also an appellation given by Pennant to the *Psophia* of Linnæus, because of it's making a strong noise with it's mouth; which it answers by a different sound from it's belly, as if it proceeded from the anus.

**TRUTTACEOUS.** The name of a genus of fish of the trout kind, distinguished from all others by a small fat fin, without rays or nerves, near the extremity of the back. Some species of this genus live only in fresh waters; but others frequent both salt and fresh, and are therefore called *anadromi* and *catanadromi*.

Truttaceous fish are divided into two orders; those which have, and those which are destitute of teeth. Of the edentulous kind, or such as have no teeth, are the *lavaretus*, *ferra*, *thymallus*, *oxyrinchus*, and *albula*; and of the toothed kind are the *salmo*, *umbra*, *trutta*, *carpio*, &c.

All truttaceous fish are highly esteemed for the table.

**TRYGUM.** An appellation by which some of the ancient ichthyologists expressed the *pastinaca marina*, or fire-flaire of the moderns. It is a species of the ray.

**TUB-FISH.** The English name for a species of *trigla*, sometimes called the flying-fish. See *SAPPHIRINE GURNARD*.

**TUBIPORA.** An appellation by which Lin-



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**naus** expresses a genus of lithophyte, in the class of worms: the characters of which are; that the animal is a nereis; and that it is a coral, consisting of cylindric, hollow, erect, and parallel tubes. He enumerates four species.

**TUBULI VERMICULARES.** A term by which some naturalists express certain small oblong and hollow sea-shells, resembling worms.

**TUBULUS MARINUS, or CANALIS.** A genus of univalve shells, of an oblong figure, terminating in a point, and hollow within, so as to resemble a tube or horn.

These shells are also called dentalia, from their resemblance to the tooth of a dog. See **SHELLS**.

**TUCANA.** A term whereby some authors express the Toucan.

**TUFTED DUCK.** An English name for the capo negro, a species of duck. See **DUCK**.

**TUI.** A Brazilian appellation for the paroquette.

**TUIAPUTEJUBA.** A Brazilian paroquette described by Marcgrave; of a beautiful green colour, but in different shades, very deep on the wings, very pale, somewhat yellowish on the belly, and of a faint colour over the rest of the body.

This bird is about the size of a swallow; and the eyes, which are large and black, are surrounded with a circle of yellowish green feathers.

**TUIETE.** A beautiful Brazilian bird of the paroquette kind, about the size of a lark, and entirely of a pale green colour, variegated with blue. The origin of the wings is blue; and there is a blue spot on the rump. The tail is short; the beak is small, crooked, and of a pale red colour; and the legs and feet are grey.

**TUITIRICA.** A Brazilian paroquette, somewhat larger than the common kind, entirely of a beautiful green colour, but of a deeper tinge on the back and wings. The beak is very hooked, and of a pale red colour; the eyes are black; the feet are blue; and the tail is somewhat longer than the wings when closed.

This species is peculiarly esteemed in Brazil; as it is capable of being taught to speak, and tamed with the utmost facility.

**TUMBLER;** the *Columba Revolvens* of Moore. A well-known species of pigeon, which receives its name from its peculiar quality of tumbling when on the wing. It is a small fowl, short-bodied, full-breasted, thin-necked, and narrow-beaked; having a small short head; and the irides generally of a bright pearl colour.

The Tumbler in this country is usually of one plain colour; black, blue, or white. The Dutch variety is nearly of the same make; but has different colours, and is sometimes feathered on the legs: it has also a larger head, and a thin skin round the eyes. Some of the finest pigeons of this sort are bred from a mixture of the Dutch and English kinds.

These pigeons are remarkable for the great heights to which they rise: they seldom ramble far from home; but mount in a perpendicular direction till they almost disappear; and at this elevation they will sometimes continue for hours. However, they never tumble when at those prodigious heights; but only near the earth, in ascending or descending.

**TUMBLER** is also a sort of dog; called in Latin *vertagus*, from his quality of tumbling and winding his body about before he attacks and fastens on his prey.

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## TUR

These dogs seem nearly to correspond with our modern lurchers, a kind of mongrel greyhounds.

**TUNALLUS.** An appellation by which some ichthyologists express the grayling, or umber.

**TUNG.** An Indian term for a small insect, the Pique of the Spaniards, which is very common, as well as very troublesome, in some parts of the East and West Indies. It is about the size of a small flea. It lays its eggs within the skin of the human body; for the effecting of which it diligently watches its opportunity; and often succeeds in the attempt, to the great annoyance and pain of the person on whom it seizes.

Sensible of its own imbecillity, this little animal generally makes its way either under the nails, or where there is some callus on the surface, that it may rest in greater security: there it lays its eggs, which hatching into so many young ones, spread themselves between the flesh and the skin, if not timely prevented by removing the parent insect.

**TUNNY;** the *Scomber Thunnus* of Linnaeus. A large fish of the scomber kind; called by authors *thynnus*, *arcynus*, *limosa*; and by some of the ancient ichthyologists, *pelamys*. Artedi characterises it under the denomination of the scomber with eight or nine fins in the hinder part of the back, rising out of a sulcus; having another sulcus at the place of the ventral fins.

This fish is common in the Mediterranean, and some other seas; and is also sometimes caught on the English coasts.

Tunnies appear to have been well known to the ancients, and constituted a considerable branch of commerce: the season of their arrival in the Mediterranean from the ocean was observed; and stations for taking them were established in those places which they were known most to frequent. At present, there are considerable fisheries of them on the Sicilian coasts, as well as several other parts of the Mediterranean, where they are cured, and supply the adjacent countries with a valuable article of provision.

These fish are sometimes found in the lochs on the western coasts of Scotland, into which they have pursued herrings; and are either sold fresh, or salted and preserved in large casks. The pieces, when fresh, have the appearance of raw beef; but, when boiled, turn pale, and acquire something of the flavour of salmon. One of them has been known to weigh four hundred and sixty pounds.

The Tunny grows sometimes to the length of seven or eight feet. It has a rounded and thick body, becoming gradually smaller towards the tail, till at length it is extremely slender. The irides are of a pale green colour; the teeth are extremely minute; the skin on the back is smooth, thick, and black, or (viewed in some lights) of a shining blue or greenish hue; the belly and half the sides are of a silvery whiteness, tinged with caerulean and pale purple; near the tail it is marbled with grey; the scales are very minute, and the tail is shaped like a crescent.

**TUNUPOLON.** An East Indian species of viper, principally a native of the Isle of Ceylon. It is of small dimensions; and of a fine satin gloss, beautifully variegated with shades of brown.

**TURBAN.** A term denoting the aggregate, or whole set of the whirls of a shell. The flat, or helix Turban, is one so slightly prominent, as to



be nearly on a level. There are also the short Turban, the produced Turban, and the long Turban.

**TURBAN SHELL.** An appellation by which some conchologists express a genus of shells of an hemispheric or spheroidal figure, in some measure resembling a Persian Turban.

**TURBIT PIGEON;** the *Columba Eimbri-cata* of Moore. A particular species of Pigeon, remarkable for its short beak; called by the Dutch *Cort Bek*, or short beak.

This Pigeon is small, and short-bodied; it has a short round head, and the plumage on the breast opens, and reflects both ways. This is usually called the *purle*; and, the greater quantity any bird has of it, the more it is esteemed. The tail and back are generally of one colour, as blue, black, red, yellow, or dun, and sometimes chequered; but the flight-feathers, and those of the rest of the body, are white.

This species is extremely active; and, if properly trained, will take very lofty flights.

**TURBO.** A genus of the testacea order of worms in the Linnæan system; the characters of which are: that the inclosed animal is a slug; that the shell is univalve, spiral, and solid; and that the aperture is straightened, orbiculated, and entire. Linnæus enumerates fifty species.

According to Da Costa, the Turbo is a genus of snails with a lengthened clavicle or turban, having in general a perfectly round mouth; the columella, or inner lip, not much faced outwards; and the body spire very prominent; so that the turban is suddenly, and not insensibly, produced from it.

The species of the Turbo are so numerous, that some conchologists have thought proper to arrange them into seven classes, in the subsequent manner—

The Turbines with long and toothless mouths, and wrinkled columellæ; of which there are seven species.

The Turbines with dentated mouths, and wrinkled columellæ, including two species.

The Turbines of a pyramidal figure, with depressed mouths; comprehending five species.

The Turbines with long and erect mouths; including four species.

The Turbines with flat mouths and long bodies; including two species.

The Turbines with large oval mouths; containing three species.

The Turbines with round mouths; comprehending six species.

One of the most remarkable species of the Turbo, is the *Scalare* of Rumphius; so called from its spires running up hollow, or with a space between them. This is a very scarce and valuable shell when large; but it is often found small in the Adriatic.

**TURBO COCHLEA.** A term by which some conchologists express the Persian shell; a species of *concha globosa*, or *dolium*.

**TURBOT;** the *Pleuronectes Maximus* of Linnæus. A well-known, valuable fish, of a remarkably square shape. The colour of the upper part of the body is cinereous, marked with numerous black spots of different sizes; the belly is white; and the skin is destitute of scales, but much wrinkled, and mixed with small short spines irregularly disposed.

These fish grow to a very great size, frequently

weighing from twenty to thirty pounds. They are chiefly taken off the north coast of England, and on those of Scotland and Holland. The large Turbots, as well as several other kinds of flat fish, are caught by means of hooks and lines, as they lie in deep water; the method of taking them in wiers, or staked nets, being very precarious.

When the fishermen go forth, each of them is provided with three lines, coiled on a flat oblong piece of wicker-work, the hooks being baited, and placed regularly in the centre of the coil. Each line is furnished with fourteen score of hooks, at the distance of six feet two inches from each other, and the hooks are fastened to the lines on snoods of twisted horse-hair, each about twenty-seven inches in length. When engaged in fishing, there are always three men in each coble; and consequently nine of these lines are fastened together, and used as one, extending near three miles in length, and furnished with 2520 hooks. An anchor and a buoy are fixed to the first end of the line, and one more of each at the end of each man's lines, in all four anchors, which are usually perforated stones, and four buoys made of leather or cork. The line is always laid across the current. The tides of flood and ebb continuing on our coasts an equal time, about six hours each when undisturbed by winds, and being extremely rapid, the fishermen can only shoot and haul their lines at the turn of each; and therefore the lines always remain on the ground about six hours; during which time the *myxine glutinosa* of Linnæus will frequently penetrate the fish that are on the hooks, and entirely devour them, leaving only the skin and bones. The same rapidity of the tides prevents the fishermen from using hand-lines; and therefore two of them usually wrap themselves in the sail, and so go to sleep; while the other keeps a strict look out, lest they should be run down by some vessel: as well as to watch the weather; for storms sometimes arise so suddenly, that it is with extreme difficulty they are able to make the shore, leaving their hooks and lines behind them.

Besides the coble, those who are employed in the Turbot-fishery have generally a five-man boat, about forty feet long and fifteen broad, and of twenty-five tuns burden: which boat is decked at each end, but open in the middle; and has two lug-sails.

In such kind of boats do the most expert fishermen go to the herring-fishery at Yarmouth, about the latter end of September, and return about the middle of November. The boats are then laid up till the beginning of Lent, when they proceed in them to the edge of the Dogger Bank, and other proper situations, in order to fish for Turbot, cod, ling, and skates. They always take two cobles on board; and, when arrived at their station, anchor the boat, throw out the lines, and fish in the same manner as those who go from the shore in a coble; with this difference only, that here each man is provided with double the quantity of lines; and, instead of waiting the return of the tide in the coble, go back to their boat, and bait their lines, thus hauling one set, and shooting another, at every turn of the tide. They commonly run into port twice a week, for the purpose of delivering their fish.

Fresh herring seems to be the best bait for all kinds of fish; and the five-men boats are always furnished



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furnished with nets for taking them. Next to herrings, the lesser lampreys are most esteemed. Haddocks, cut in pieces, sand-worms, and limpets, are also used; and when neither can be procured, bullock's liver is substituted in their room. The hooks used for Turbot are two inches and a half long in the shank, and near an inch wide between the shank and the point. The line is made of small cording, and always tanned before using.

Turbots, as well as all fish of the Ray kind, are extremely delicate in their choice of bait; for, if a piece of herring has been twelve hours out of the sea before it is placed on the hooks, they will seldom touch it.

**TURBOT, PEARL**, the *Pleuronectes Rhombus* of Linnæus. This variety is frequently exposed to sale in the London markets; but it is inferior to the Turbot in goodness, as well as in size. The irides are yellow; the skin is covered with small scales, quite free from any spines or inequalities; the upper side of the body is of a deep brown colour, marked with spots of dirty yellow; and the under side is pure white.

**TURDUS, Thrush** In the Linnæan system, a genus of birds of the order of passeræ: the distinguishing characters of which are; that the tongue is jagged, and surrounded with a rim or margin; the bill is of a conic, pointed figure, the upper mandible bent at the apex, and emarginated; the nostrils are naked, and but half covered above with a small membrane; and the chaps are ciliated. Linnæus enumerates twenty-eight species.

According to Ray, the characters of this genus are the following: they are of a middle size between the lark and the pigeon; their beaks are moderately long, thick, and a little incurved downwards; their mouths are yellow within; their tails are long; and their food is both vegetable substances and animals in common.

Most of these birds sing very melodiously; and are capable of being taught to imitate the human voice.

Britain affords four species of the Thrush: the missel-bird; the song-thrush, or throistle; the field-fare; and the swine-pipe, or redwing.

**TURDUS** is also the name of a genus of fishes, according to Ray's distribution, of the class of such as have only one back fin; the anterior rays of which are prickly, and the hinder ones soft and smooth.

**TURKEY.** A distinct genus of birds of the order of gallinæ; the distinguishing characters of which are, that the head and neck are covered with naked tuberos flesh, and a long fleshy appendage hanging down from the base of the upper mandible: to which may be added, from Pennant, that the bill is convex, short, and strong; the nostrils are open and pointed at one end, and lodged in a membrane; the tongue is sloped on both sides towards the end, and pointed; and the tail is broad, consisting of eighteen feathers, and extensible. Linnæus enumerates three species.

The Turkey was unknown to the ancient naturalists; and even to the Old World, before the discovery of America. It was a bird peculiar to the new continent; and is at present the most common wild fowl of the northern parts of that country. It was first imported into France in the reign of Francis I. and into England in that of Henry VIII. The first birds of this kind must therefore have been brought from Mexico; which conquest was completed in 1521. *Ælian in-*

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deed mentions a bird found in India, which some have supposed to be the Turkey; but Gesner and Pennant are of opinion, that it was either the peacock; or some bird of that genus. Some persons who have resided in the East Indies inform us, that though the Turkey is bred there, it is not considered as a native of the country, but only as a domestic bird.

The Turkies of this country, when young, are among the tenderest of birds; yet in their wild state, they are very numerous in the forests of Canada, which are covered with snow above nine months in the year. In their natural woods they are much larger, as well as more beautiful, than in their state of domestic captivity; their plumage being grey, bordered at the edges with a bright gold colour. The Savages weave their feathers into cloaks, to adorn their persons; they also form them into umbrellas and fans; but never think of animals under their protection, which the woods supply in sufficient abundance.

The hunting of the Turkey constitutes one of the Savage's principal diversions; and it's flesh contributes greatly to the support of his family. When he has discovered the retreat of the Turkies, he takes with him his dog, which he has trained to the sport; and sends him into the midst of the flock. As soon as the Turkies perceive their enemy, they run with such prodigious swiftness, as to leave the dog at a great distance behind: he still, however, continues to follow them, knowing from experience that they must soon be tired, as they are incapable of running fast for any considerable space of time. At length, he obliges them to take shelter in some tree; where, quite exhausted with fatigue, they sit till the hunter arrives, who, with a long pole provided for that purpose, knocks them down one after another.

Turkies are furious among themselves, but extremely weak and cowardly even among other animals less powerful than themselves. The common cock generally makes the Turkey keep at a distance. Indeed, the Turkey-cock will fly from the most contemptible animal that boldly ventures to face him: on the contrary, he pursues any creature that seems to fear him with the most cowardly insolence; particularly children and lap-dogs, to whom he seems to have a peculiar aversion. After such an exploit, he returns to his female train, displays his plumage around, struts about the yard, and seems to exult in his valour.

The female seems to be of a milder disposition. She lays eighteen or twenty eggs, larger than those of the hen, which are whitish, and speckled, or rather freckled, with dusky yellow spots. Though extremely tender when young, her offspring become more hardy as they grow older, and accompany their parent to considerable distances, in pursuit of insects, which they prefer to any other food; consequently they are but of small expence to the farmer.

The Turkies bred in Norfolk are said to be the largest of this island, weighing from twenty to thirty pounds each. But in the East Indies, where they are known only in their domestic state, they often weigh fifty or sixty pounds.

The Turkey expands it's tail after the manner of the peacock: the neck and head are bare of feathers, and covered only with a purple or reddish skin, which, when the bird assumes stateliness, swells, and is blown up as it were to a considerable



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able size. It has a red fleshy appendix, or carbuncle, resembling a worm, on the upper chap of the bill, which it can raise or contract at pleasure. The tail consists of eighteen feathers; and each wing contains twenty-eight primaries. The legs have a kind of rudiment of spurs, which are very conspicuous.

The flesh of a Hen-Turkey is sweet and delicate, and not inferior to a pullet's; but that of a Turkey-Cock is inferior both in flavour and delicacy.

'Most of our housewives,' says a Swedish writer on agriculture, 'have long despaired of success in rearing Turkeys; and complained that the profit rarely indemnifies them for their trouble and loss of time: whereas,' continues he, 'little more is to be done than to plunge the chick into a vessel of cold water the very hour, or, if that cannot be done, the day it is hatched; forcing it to swallow one whole pepper-corn, and then restoring it to its mother. From that time it will become hardy, and fear the cold no more than a hen's chick. After which, it must be remembered, that these useful creatures are subject to one particular malady, whilst they are young, which carries them off in a few days, without timely precaution. When they begin to droop, carefully examine the feathers on their rumps, and you will find two or three whose quill-part is filled with blood: on drawing these, the chick recovers; and after that requires no other care than what is commonly bestowed on poultry that range the court-yard.'

Such are the Swedish agriculturist's remarks; and some tell us that they are founded in truth and reason. The experiment is easily made; and, if successful, would be attended with considerable advantages in rural œconomy.

**TURNSTONE**; the *Tringa Morinellus* of Linnæus. This bird, called also the *Morinellus Marinus*, or the sea-dottrel, is somewhat larger than the black-bird. The head is moderately thick, and the body of a longish shape; the beak is thick, whitish at the base, and sharp and black at the point; the head, neck, shoulders, wings, and upper part of the breast, are of a brownish colour; the throat and forehead are ash-coloured; the back and rump are white; the middle of the back is marked with a very large triangular black spot; and the tail consists of twelve feathers, the lower half being white, the upper black, and the tips white. The quill-feathers are dusky; but from the third or fourth the bottoms are white, increasing to about the nineteenth, when the feathers are entirely of that colour. The legs are short, and of a reddish yellow or orange colour.

These birds receive their English name from their method of searching for food, by turning up small stones with their strong bills, in order to come at such insects as lurk under them.

**TURNSTONE, HUDSON'S BAY**; the *Tringa Interpres* of Linnæus. This species, which is about the size of a thrush, is often shot on the islands in the north of Scotland, but is properly a native of North America. The forehead, throat, and belly, are white; the breast is black; and the neck is surrounded with a black collar, whence another bounds the sides of the neck, and passes over the forehead. The head and lower part of the neck behind are white, the former streaked with dusky lines; the back is ferruginous, mixed with black; the coverts of the tail are white,

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crossed with a black bar; the tail is black, tipped with white; and the legs are of a full orange colour.

**TURONILLA**. An appellation by which some ichthyologists express the small fish more usually denominated the stickleback or ban-stickle.

**TURSIO**. A name given by some authors to the phocæna or porpoise.

**TURTLE**. See DOVE.

**TURTLE**. An appellation by which the moderns express that kind of tortoise which is found only in the sea, or on its shores. There are a great variety of species.

**TURTLE, EDIBLE**. Mariners generally distinguish such Turtles as are proper for food into four kinds: the trunk Turtle, the logger-head, the hawksbill, and the green Turtle.

The trunk Turtle is generally larger than any of the rest; and its back is higher and rounder. The flesh of this variety is rank, and reputed unwholesome.

The logger-head has obtained its title from the size of its head, which is much larger in proportion than that of the other kinds. The flesh of this kind is also rank, and seldom eaten.

The hawksbill Turtle has a long and small mouth, somewhat resembling the bill of a hawk. Though the flesh of this Turtle is not much esteemed, the shell answers some valuable purposes. This is the animal which supplies the tortoise-shell of which snuff-boxes and a variety of beautiful trinkets are made.

The green Turtle is the most celebrated, as well as the most valuable, of all the animals of the tortoise kind. The delicacy of its flesh, its nutritive qualities, together with the property of being easily digested, are now well known in this kingdom.

Dampier appears to have been the first who observed the above distinctions among these animals; and that, while the rest might be valuable for other purposes, the green Turtle alone was prized for the delicacy of its flesh.

The green Turtle is indeed become a branch of commerce; and ships are provided with conveniences for supplying them with water and provisions, in order to bring them hither in a healthy state from Jamaica and other West India islands. This, however, cannot always be effected; for though they scarcely require any provisions on the voyage, yet the working of the ship occasions their beating against the sides of their receptacles, whereby they become lean and battered: so that, in order to enjoy this luxury in the highest perfection, instead of bringing the Turtle to the epicure, the epicure should be transported to the Turtle.

The colour of the shell of this creature is somewhat greener than that of others of the kind; whence it receives the appellation of the Green Turtle. Such as weigh about two hundred pounds are of the most common size; though they are sometimes known to exceed five hundred, and even to reach nine hundred.

The ancients, however, speak of much larger Turtles: Ælian assures us, that the houses in the island of Taprobane are usually covered with a single shell; and Diodorus Siculus informs us, that a people bordering on Æthiopia, called the Turtle-eaters, coast along the shore in boats made of the upper shell of this animal.

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The Turtle seldom quits the sea, except to deposit it's eggs, and sometimes to sport in fresh water. In about twenty-five days after laying, the eggs are hatched by the heat of the sun; and the young Turtles, about the size of quails, are seen bursting from the sand, and running directly to the sea, guided wholly by instinct. But it sometimes happens that the surges beat them back on the shore; when they become a prey to the innumerable quantities of bird, which then frequent the sea-coasts.

**TURTLE, MEDITERRANEAN.** This species is common to the Mediterranean, and our southern seas; and is sometimes, though not frequently, caught on the north coasts of England. Two of a vast size were taken on the coast of Cornwall, in the mackerel nets, a little after Midsummer 1756; the largest weighing eight hundred pounds, the lesser near seven hundred. A third, of equal weight with the former, was caught on the coast of Dorsetshire, and deposited in the Leverian Museum.

The length of the body is nearly five feet; of the head, nine inches; and of the neck, three. The upper jaw is bifurcated at the extremity; the end of the lower is sharp, and clasping into the fork of the upper. The breadth of the body, at the widest part, is three feet; the length of the fore fins is two feet seven; of the hind, thirteen and a half. The body is covered with a strong hide, exactly resembling black leather, destitute of scales, but marked with their appearance; and the back is divided into five longitudinal flutings or grooves, with as many sharp but smooth risings.

This species is extremely fat; but the flesh is coarse, and so very unwholesome, that a gentleman, by imprudently eating of one, is said to have been well nigh poisoned.

**TURTUR.** The classical appellation for the dove.

**TURTUR** is also a name by which some ichthyologists express the *pastinacha marina*, or fire-flare.

**TWAITE.** See SHAD.

**TWITE;** the *Linaria Montana* of Linnæus. This bird, according to Willughby, inhabits the hilly parts of this country. This author likewise informs us, that the colour of the head and back is the same with that of the common linnet; that the feathers on the throat and breast are black, edged with white; and that the rump is of a rich scarlet, or orange tawny colour. The edges of the middle quill-feathers are white; as are the tips of those of the second row. The two middle feathers of the tail are of an uniform dusky colour; and the others are edged with white.

Pennant, however, gives a somewhat different description; and says that the Twite is rather in-

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ferior in size to the common linnet, and of a more taper make; the bill is short, and entirely yellow; above and below each eye there is a pale brown spot; the edges of the greater coverts of the wings are white; and the female wants the red mark on the rump. In other respects, both agree.

These birds derive their name from the poverty of their note, which is totally destitute of music. They are supposed to breed only in the northern parts of this island.

**TYGER.** See TIGER.

**TYPHLINUS.** An appellation by which some ichthyologists express the cæcilia, or slow-worm.

**TYRANNUS.** A name given by some authors to the *lanius*, or butcher-bird; a small but very destructive creature.

**TZANATL.** An American bird described by Nieremberg; the body of which is entirely covered with very long and beautiful plumage of a fine pavonaceous green colour. The upper side of the wings is black, but the under is of a very fine shaded green. The head is adorned with a most elegant crest; the throat and breast are of a fine scarlet hue; and the primaries are very long, and beautifully variegated with several colours.

The feathers of this bird are held in higher estimation among the Indians than gold; because with them they decorate the images of their gods.

**TZANPAU.** An American bird described by Nieremberg, and by many reputed the female of the *polyglotta avis* of ornithologists, or *centlatolli* of the Indians. It is celebrated for the modulations of it's voice.

**TZINITZIAN.** A beautiful American bird, of the size of a pigeon, and ornamented with elegantly varied plumage. The beak is short, crooked, and of a pale colour. The breast, and part of the belly, are red; but that part which is next the tail is of a fine blue colour, and a bright white, elegantly intermixed. The tail is green on the upper part, and black underneath; the wings are variegated with white and black; the shoulders are of a very beautiful green colour; and the legs and feet are grey.

This bird is most commonly seen on the coasts of the South Sea. It feeds on vegetables; and is generally caged on account of it's beauty, though it's voice is totally destitute of melody.

**TZTACTZON.** An American appellation under which Nieremberg has described a species of duck remarkable for the variable and beautiful colours of it's head, which are purple, blue, white, and green, with the richest gloss. The body is variegated with black, grey, and white; and the legs are red.

It is common in the lakes of Mexico; and it's flesh is esteemed very wholesome.



**VACCA.** The female of the ox kind. See Cow.

**VACCA MARINA.** See MANATUS and SEA-Cow.

**VAMPYRE;** the *Vespertilio Vampyrus* of Linnæus. A species of bat, the *La Roufette* and *La Rougette* of Buffon, with large canine teeth, four cutting ones above, and the same number below. It has a sharp black nose; large naked ears; and a pointed tongue, terminated by sharp aculeated papillæ. The exterior toe is detached from the membrane; the claw is strong, and hooked; there are five toes on the hind feet; the talons are very crooked, strong, and compressed sideways; the membrane is divided behind quite to the rump; and there is no tail. The colour varies, some being entirely of a reddish brown, and others dusky. The size likewise differs much; the extent of the wings, in some, being four feet; in others, five feet four inches; and in some considerably more.

This animal inhabits Guinea, Madagascar, and most of the Oriental Islands. It is also found in New Holland, the Friendly Islands, the New Hebrides, and New Caledonia.

These bats, which are gregarious, darken the very air with their numbers; beginning their flight from one neighbouring island to another immediately after sun-set, and returning in clouds from the commencement of the morning twilight till sun-rising. They lodge in hollow trees during the day; live on fruits; and are so extremely fond of the juice of the palm-tree, that they often drink it till quite intoxicated, and then drop to the ground.

The natives of New Caledonia use the hair of these bats in ropes, and in the tassels of their clubs; the Indians esteem their flesh excellent food; and the French resident in the Isle of Bourbon boil them in their bouillon, to give it a relish. They make a singular kind of noise while feeding; their smell is rank; and, when opposed or molested, their bite is said to be very dangerous.

The ancients appear to have had some knowledge of these animals; and Buffon apprehends that the poets formed their fictions of harpies from such subjects.

Linnæus gives this bat the appellation of Vampire from a supposition of it's being that species which sucks the blood of the human race when asleep: but Buffon is of opinion that the *Vespertilio Spectrum* of Linnæus is the bat which possesses the dangerous quality of sanguisuction. See BAT.

**VANDOSIA.** An appellation by which some ichthyologists have expressed the leuciscus, or common dace.

**VANELLUS.** A name given by some writers to the capella or lapwing.

**VANSIRE.** A species of weasel which inhabits Madagascar. It has short ears; the hair is brown at the roots, barred above with black, and

ferruginous; and the tail is of the same colour. The length of this animal is from nine to fourteen inches; and the tail is nearly ten.

**VARI.** An appellation by which some naturalists express the lemur catta of Linnæus, a species of maucauco about the size of a cat, inhabiting Madagascar and the neighbouring isles.

The Vari of Buffon is the ruffed maucauco of Pennant, the black maucauco of Edwards, and the lemur caudatus collari burbato of Linnæus. The irides are orange-coloured; the sides of the head are encompassed with long hair, standing forward like a ruff; the tail is long; the colour is wholly black, though sometimes white spotted with black; and the feet are black.

This animal is very fierce in a wild state; and makes such a terrible noise in the woods, that the voice of one may be mistaken for that of numbers: but, when tamed, which is very practicable, it is gentle and docile.

**VARIA.** An appellation given by some authors to the leopard or pardalis, from the beautiful variegations of it's hair.

**VEGETABLE FLY.** An insect found in the island of Dominica; resembling the drone in size and colour, but differing from it in that it has no wings.

This insect buries itself in the earth in the month of May, and begins to vegetate. By the latter end of July, the tree is arrived at it's full growth; and resembles a coral branch, being about three inches high, and bearing several little pods, which dropping off, become worms, and afterwards flies, like the English caterpillars. Such is the opinion of the credulous natives; and even in the Philosophical Transactions, Vol. LIV. p. 270, this singular vegetable insect is figured and described. But the judicious Dr. Hill observes, that the cicada is common in Martinico; and that in it's nymph state, in which ancient authors call it tettigometra, it buries itself under dead leaves, and there waits it's change; but when the season is unfavourable, many perish: and that the seeds of the clavaria sobolifera, a fungus producing soboles or shoots from it's sides, and usually growing from the bodies of putrid animals, finds here a proper bed to vegetate. This the doctor asserts as a fact.

**VELLIA.** An appellation whereby many authors express the *lanius minor*, or *lanius tertius* of Aldrovandus; called the flusher in England.

**VELVET DUCK.** See Duck.

**VELVET RUNNER.** A bird described by Brooke. The whole body is finely coloured with black and red, except the belly, which is white; and the black has a very glossy appearance. The legs are pretty long and of a dusky colour. It appears to be an obscure species.

**VENEREA CONCHA.** A very large and elegant genus of shells, more usually denominated porcellanæ. See PORCELLAIN SHELL.

**VENUS.** In the Linnæan system, a genus of the tellacea order of worms. It's characters are these:



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these: the animal is a tethys; the shell is bivalve; the legs are incumbent at the interior margin; the hinge has three teeth, diverging at their apex; and the anus and vulva are distinct. Linnaeus enumerates thirty-nine species.

**VER-PUCERON.** An appellation by which Reaumur expresses a kind of insects, very destructive to the Puceron, from which they receive their name. They are a sort of worms produced from the eggs of flies of two principal kinds; the one being furnished with legs, and the other being destitute of them.

**VER-POLYPE.** A name by which Reaumur and some other authors express a species of aquatic worm, by no means to be confounded with the common Polype, so famous for its reproductive qualities.

The insect under consideration is produced from the egg of a tipula; and received its present appellation from some remarkable productions, placed at the anterior and posterior parts of the body, supposed to have some analogy with the parts of the sea-fish called the polypus.

These worms are usually met with in ditches abounding with mud.

**VERANO AVE.** A term by which the Portuguese resident in the Brazils express a large bird of the thrush kind, remarkable for its loud noise; and better known by its American name, Guirapanga.

**VERDONE.** A name by which some ichthyologists express a fish of the turdus or wrasse kind, more usually denominated turdus viridis minor. The body is entirely of a fine green colour of different shades; and it has one long dorsal fin, consisting of thirty rays, the eighteen anterior of which are rigid and prickly, but the remainder soft and flexible.

This fish is caught in the Mediterranean, and frequently exposed to sale in the Italian markets.

**VERGADELLE.** An appellation sometimes given to a fish of the mullet kind; called also chelon; remarkable for the thickness of its lips.

**VERITH.** A name given by Isidore to the fish more usually called thrissa; in English, the shad, or mother of the herrings.

**VERKINS VISCH.** A Dutch appellation for an East Indian fish about seven inches long, of a blackish green colour, with fins and tail wholly black, and yellow irides.

This fish, which is caught in fresh waters, and much esteemed for its delicacy, is nearly allied to the capricus or goat-fish.

**VERMELPO.** An American fish, more usually denominated pudiano.

**VERMES.** See WORMS.

**VERMICULUS MARINUS.** A genus of shell-fish, so called from the inclosed animal, which is always a kind of worm. They are usually found in large clusters, interwoven with each other in a very singular manner.

Bonani calls them sea-serpents inclosed in shells, from the various twisted forms in which they adhere to ships and rocks. He further ranks them among multivalves, because they are never found single, but always in clusters. This author, however, is not very remarkable for the accuracy of his discriminations; a quality without which the natural historian can never arrive at any great degree of celebrity.

According to Da Costa's arrangement, the

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vermiculi, or worm-shells, constitute the third family of univalve shells: and he defines them to be tubular cylindric shells, single, in masses together, or adherent to other shells or bodies; variously sinuous, by winding or twisting to and fro in a very irregular manner. Of these vermiculi he enumerates two genera; those which have no fixed or regular form, as the common vermiculi, of which, though they are found in great abundance, there are not many different species; and the penacilli, or worm-shells, which in the whole, or any particular part, have a determinate regular shape or structure. There are few species of this genus: the watering-pot from the East Indies is the chief kind; and, when perfect, is much valued.

There are also some vermiculi with concamerations; but these are seldom regular, or set at equi-distant intervals; and are not pierced by a pipe or siphunculus, communicating from chamber to chamber, so as to permit the fish to penetrate more than one chamber or inclosure at a time; in which respect they wholly differ from the nautili, and other concamerated shells.

**VERONUS.** An appellation by which some authors express the small river-fish so well known in England under that of the minnow.

**VERZELLINO.** An Italian name for a bird common in that country, where it is caged, and much valued for its notes. It is the citrinella and thraupis of some ornithologists.

**VESPA.** See WASP.

**VESPERTILIO.** A name by which some conchologists express a species of voluta, supposed to bear some resemblance in colour to a bat. See BAT.

**VESPIVORUS BUTEO.** A name given by some ornithologists to the honey-buzzard; so called from its feeding its young with the maggot-worms found in honey-combs. It is also denominated Apivorus Buteo.

**VETOLA.** A Venetian appellation for an aquatic bird of the scolopax kind; the scolopax limosa of Linnaeus.

This bird usually weighs about nine ounces. The beak is entirely red, except at the extremity, where it is blackish; the neck is grey; the belly and breast are white; the head is of a brownish grey colour; the back is brown; the rump is marked with a white ring; and the tail is composed of black and white feathers.

**VIBRANT, OR VIBRION.** A name by which some naturalists express a class of flies more usually denominated ichneumons.

**VICUNA.** A word by which some naturalists denominate the pacos, or American camel.

**VIELLEUR.** A species of fly common in Surinam and some other places. It resembles the lantern-fly in many respects, but is considerably larger.

**VINAGO.** An appellation given by some ornithologists to the wood-pigeon; so called from the red vinous colour of its breast, shoulders, and wings.

**VINE GALL-INSECT.** A small creature of the gall-insect class, principally found on the vine, though sometimes discovered on other trees. Its manner of life, shape, and figure, bear a general conformity to others of the same class; but it differs from them in this; that whereas they lay all their eggs under their bodies, and continue absolutely to cover them till they are hatched



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hatched; the insects under consideration protrude them from their bodies, and are found in prodigious numbers, lodged in a sort of silky bags dispersed over the stalks and branches of the vine.

**VINE-GRUBS.** A name given by some naturalists to the pucerons, or little insects, usually of a green colour, found in great abundance adhering to the leaves of trees and plants, and particularly to their young stalks.

**VIOLA.** An appellation by which some ichthyologists express the fish called in English the smelt.

**VIPER;** the *Coluber Berus* of Linnæus. This well-known poisonous serpent is found in many parts of this island; but the dry, stony, and in particular the chalky countries, abound with them. It seldom arrives at a greater length than that of two feet, though it is sometimes met with above three. The ground colour of the body of the male is a dirty yellow; that of the female is deeper. The back is marked the whole length with a series of rhomboidal black spots, touching each other at the points; the sides are marked with triangular ones; and the belly is entirely black. It is chiefly distinguished from the common black snake by the colour, which in the latter is more beautifully mottled; as well as by the head, which is thicker than the body; but particularly by the tail, which in the viper, though it terminates in a point, does not run tapering to so great a length as in the other: when, therefore, other distinctions fail, the difference of the tail can be discerned at a single glance.

This reptile differs from most others of the serpent class in being slower in its motions, but more especially in being viviparous. Providence, in compassion to mankind, seems not only to have diminished its speed, but also its fruitfulness; and, in proportion as it is dangerous, its powers of mischief are abridged, and its numbers confined.

The Viper copulates in May, and is supposed to go with young three months. If the female be dissected during the period of gestation, she will be found to contain about ten or eleven eggs, chained together in the womb like a string of beads; each egg containing from three to four young: these continue in the matrix till they arrive at such a degree of perfection as to be able to burst from the shell; and they are said, by their own efforts, to creep from their confinement into the open air, where they continue for several days without any sustenance whatever.

‘We have often been assured,’ says Pennant, ‘by intelligent people, of the truth of a fact, that the young of a Viper, when terrified, will run down the throat of the parent, and seek shelter in its belly, in the same manner as the young of the opossum retire into the ventral pouch of the old one.’ From this,’ continues he, ‘some have imagined that the Viper is so unnatural as to devour its own young; but this deserves no credit, as these animals live on frogs, toads, lizards, and young birds; which they swallow entire, though the morsel is often three times as thick as their own body.’

These creatures are capable of supporting abstinence for a remarkable length of time. One of them has been confined in a box for six months, without the least visible food; and yet,

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during the whole time, never abated in its vivacity. It feeds only during a small portion of the year, but never when under confinement; for mice, its favourite food, should at any time be thrown into the box, though eager to kill, it will never taste them. When at liberty, it remains torpid throughout the winter; but, when confined, has never been observed to take this annual repose. Its poison, however, decreases in proportion to the continuance of its confinement; and it is imagined that the virtues of the animal’s flesh are considerably lessened by the same restraints.

Vipers are usually taken with wooden tongs, by the ends of their tails, which may be done without danger; for, while held in that position, they are unable to wind themselves up to hurt the aggressor; yet, notwithstanding this precaution, the Viper-catchers and others are frequently bit by them: and as they are the only animals in this country truly alarming because of their poisonous effects, we shall note such remarkable cases, and modes of cure, as may tend to alleviate the pain, and obviate the noxious consequences of the bite when it has at any time unfortunately taken place.

A person named Oliver, a Viper-catcher at Bath, is said to have been the first who discovered the efficacy of olive-oil in curing the bite of this dreaded serpent. On the first of June, 1735, in the presence of a great number of persons, he suffered himself to be so bit by an old black Viper, brought by one of the company, on the wrist, and joint of the thumb of the right-hand, that blood issued from the wounds. He immediately felt a violent pain, both at the top of his thumb, and up his arm, even before the Viper was loosened from his hand. Soon after, he felt a pain, resembling that of burning, trickle up his arm. In a few minutes, his eyes began to look red and fiery, and to water much. Within less than an hour, he perceived the venom seize his heart, by a kind of pricking pain, attended with faintness, shortness of breath, and cold sweats. In a few minutes afterwards, his belly began to swell, accompanied with severe gripings, pains in his back, vomitings, and purgings. During the violence of those symptoms, his sight forsook him for several minutes, but he was still capable of hearing. He said that, in his former experiments, he had never deferred his remedy longer than till he perceived the effects of the venom had reached his heart; but at this time, being willing to satisfy the company thoroughly, and trusting to the speedy effects of his antidote, which was nothing more than olive-oil, he forbore to apply any thing till he found himself extremely ill, and quite giddy.

About an hour and a quarter after he was first bit, a chaffing-dish of glowing charcoal was brought in; and his naked arm was held over it as close as he could bear, while his wife rubbed in the oil with her hand, turning his arm continually round, as if she would have roasted it over the coals. He said the poison soon abated, but the swelling was not much diminished. Most violent purgings and vomitings soon ensued; and his pulse became so low, and so often interrupted, that it was thought proper to give him a repetition of cordial potions: he was not sensible, he said, of any great relief from them; but that the drinking a glass or two of olive-oil seemed to give him ease. Continuing in this dangerous condition,



dition, he was put to bed, where his arm was again bathed over a pan of charcoal, and rubbed with olive-oil heated in a ladle over the charcoal by Dr. Mortimer's direction, the physician who drew up the account. From this last operation he declared that he found immediate ease, as though by some powerful charm. Soon afterwards, he fell into a profound sleep; and, after nine hours rest, awaked about six the next morning perfectly well: but, in the afternoon, after drinking such a quantity of rum and strong beer as to be almost intoxicated, the swelling returned, accompanied with much pain and cold sweats, which soon abated on bathing the arm as before, and wrapping it up in brown paper soaked in the oil.

This cure being attributed to the oil alone, though it appears that cordials were administered, some ingenious foreigners were induced to try the same experiment, but not uniformly with success. Dr. Vater at Dresden found oil a specific; but Messrs. Geoffroy and Hunauld, of the Royal Academy of Sciences at Paris, made a number of experiments, in which this oil proved ineffectual: and added to their own accounts some others of people who were bit; in which all the dreadful consequences of that poison are shewn, and the remedies specified by which they were removed.

The first instance which these gentlemen produce, is in the case of Mr. Pison, who was bit on the end of his fore-finger by an enraged Viper. A drop of blood immediately issued from the wound; and the first application made was that of covering the whole member with a quantity of Venice treacle: the finger, however, swelled violently, and was scarified in several places. The patient was ordered to eat the body of the Viper boiled, and to drink a glass of wine after it, with some Venice treacle, in which were infused a few drops of the volatile spirit of Vipers; and the finger was wrapped round with compresses and bandages wetted in aqua vitæ. Soon after this, the patient began to vomit; and, after a plentiful discharge in that way, the swelling increased; and his arm, which was now very much distended, was scarified in twenty places; and compresses of linen, dipped in aqua vitæ, were laid on the wounds. He afterwards took volatile salt of Vipers in repeated doses; had more scarifications made in his arm; and drank, in the space of one afternoon and evening, a quart of strong wine. After this, he slept very sound; all the symptoms disappeared; and he was almost recovered by six o'clock next morning, except that the scarifications were two months in healing. After that time, he enjoyed a confirmed state of health.

A second instance is recorded of a young lad, of a robust constitution, bit by a Viper enraged, and kept for some time in a very hot situation near the fire. He at first perceived a pain, like that of the oil of vitriol dropped on the wound; when the finger on which he was bit was tied very tight with a binder: after this, some scarifications were made in it, and a quantity of the fat of the Viper was rubbed into them. Four Vipers were then killed, and all their fat was used. After which he took three drams of Venice treacle in some wine.

The patient's whole arm swelled; he perceived a violent heat diffused over his body; and his other

hand became so turgid, that at length he could scarcely shut it. On this, he took a large dose of Venice treacle, camphire, volatile salt of Vipers, of amber, of sal ammoniac, and sal volatile oleosum; this he repeated at some distance of time. He was bled in the opposite arm; he vomited violently; and an incision being made all along the finger, no blood issued thence. The hand, arm, and breast, were embrocated with a mixture of spirit of lavender, camphire, Venice treacle, and the fat of Vipers. After having vomited plentifully, and being rubbed with this warm mixture, he found himself much easier. At eight o'clock in the evening he took another dose of his volatile medicines, and slept till four in the morning: he then took a large glass of wine, slept till six, and at seven eat part of a fowl with a good appetite. The surgeons would have made more scarifications in the arm, but the patient would not suffer them. Three days afterwards, an erysipelas appeared, to which a mixture of aqua vitæ and ointment of marsh-mallows was applied; and, finally, he was perfectly restored to health.

In these two instances, the symptoms appeared much in the same manner as those of the Bath Viper-catcher, who suffered himself to be bit that he might be cured by his own antidote oil. The sleep came on in all the same circumstances; and they were all cured, as well he who used no unctions, as he who used the fat of the Vipers, or the Englishman who depended on oil. The internal medicines given to them all were of much the same kind. All, therefore, that can be concluded from these cases is, that either these bites would not have proved mortal in themselves, or that the cordial medicines taken internally were the remedies which prevented the mischiefs that would have ensued; and these seem to have acted, not as specifics against the bite of this creature, but merely as medicines that would stop the progress of a gangrene; the unprevented increase of which is the circumstance that proves fatal from the bite of the Viper.

The dissection of such animals as have died by the bite of the Viper, whether rubbed with oil or not, afforded all the like appearances. The limb that had received the wound was wholly swelled and livid; and these symptoms were usually carried along the thigh to the belly, and sometimes up to the breast. Incisions made along these parts always discovered the cellules of the membrana adiposa full of a bloody-coloured water; and the membrane itself was swelled, blackish, and gangrened: and this always appeared more plainly in the belly than in any other part; the membrana adiposa, in all other parts of the body, being in it's natural state. The injured parts often emitted a cadaverous smell; the muscles of the wounded limb were also of a brownish colour; and their fibres had lost their consistence, and seemed ready to give way to the approaching gangrene. Nor is this effect confined to the external parts alone: a goose that had been bit had three gangrenous spots on it's heart, and all the indications of an incipient gangrene in other parts of it's body; the concave side of the liver was also gangrened, and had wholly lost it's consistence. The lungs also of a fowl, that had been bit on the wing, were found to be gangrened in part.

The effects, however, of the bites of different Vipers, were different in their degree, and several circumstances



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circumstances relative to the animal wounding, or the creature wounded, may occasion very different consequences: hence remedies, which succeed in one or two cases, are not to be regarded as specifics.

The poison of the Viper is only dangerous when immediately conveyed into the blood. It is neither noxious to eat the flesh of creatures killed by Vipers, to drink the liquor in which they have been drowned, or to suck the parts they have wounded: on the contrary, Signor Redi asserts, that sucking the wound is a sovereign remedy against the bite of the Viper; but he denies, what has been affirmed by Aristotle and Galen, that the spittle of a fasting person will kill those animals.

The practice of extracting poison by suction is very ancient; and indeed nothing can be more rational. Where the bite cannot be cut out, this is the most probable method of succeeding: nor can there be any danger in performing that office, the poison being perfectly innocent, unless taken into the body by a wound. The person, however, who sucks the wound, ought frequently to wash his mouth with sallad-oil, which will prevent the least inconvenience. After the wound has been well sucked, it should be rubbed with warm sallad-oil. A poultice of bread and milk, softened with sallad-oil, should likewise be applied; and the patient should drink freely of vinegar whey, or water-gruel mixed with vinegar, to bring on a perspiration. Vinegar is, indeed, one of the very best medicines that can be used in any poisonous case, and ought to be taken very liberally. 'This course,' says the ingenious Dr. Buchan, 'will be sufficient to cure the bite of any of the poisonous animals of this country.'

Though the bite of the Viper is sufficiently dreadful, notwithstanding the simplicity of the applications which are sometimes effectual in curing it; yet its flesh has long been celebrated as a noble medicine. A broth, made by boiling a Viper in a quart of water till it comes to a pint, is the most usual method in which it is at present recommended; and it is said to be a very powerful restorative in battered constitutions. The salt of Vipers is also supposed to exceed any other animal salt whatever in giving vigour to a languid circulation, and in prompting to venery.

**VIPERA PILEATA, OR VITTATA.** An appellation by which some naturalists have expressed a remarkable and dangerous species of Indian serpent, more usually denominated Cobra de Capella.

**VISION.** An animal of the weasel kind, so called by Buffon; a native of North America.

**VITIFERA.** An appellation by which some ornithologists have expressed the common ænanthe, a bird well known in this country by the name of the wheat-eat.

**VITTA CŒRULEA.** A name whereby some conchologists express a species of the dolium.

**VITTA.** An appellation by which Gaza and other ichthyologists express the tænia.

**VITULUS MARINUS.** See SEA-CALF and SEAL.

**VITULI AQUATICI.** A term by which some naturalists express those worms which resemble animated horse-hairs. See AMPHIBÆNA AQUATICA.

**VIVERRA.** See FERRET.

## U N I

**VIVERRA.** In the Linnæan system, a distinct genus of the order of fæx. The distinguishing characters are: it has six cutting-teeth, the intermediate ones being shortest; the grinders are more than three; the tongue bends backwards, and is frequently aculeated; and the nails are extended.

This genus includes six species; the ichneumon, or Indian quirpele; the naia, or coati mundi of Brazil, of a reddish colour, having its tail annulated with white; the narica, of a dusky colour, and the tail sometimes annulated with black and white, and sometimes of an uniform dusky colour, which some naturalists consider as a variety of the former; the putorius, or American pole-cat; the zibetha, or civet; and the ginetta.

**ULULA.** See OWL.

**UMBER, OR OMBRE.** A provincial name for a fish of the truttaceous kind, more commonly called the grayling; and sometimes the thymallus. It is a much esteemed and very delicate fresh-water fish.

**UMBRA.** A Mediterranean fish; called cromis by some, and corvo by the Venetians.

The Umbra is commonly about twelve or fourteen inches long, though it sometimes grows to the length of five or six feet; and weighs about sixty pounds. It is of a somewhat depressed figure; its back is ridged, and rises up from the head; and, in its general figure, it resembles the carp, except that it is broader. Its colours are very elegant, for a number of long oblique lines cover its sides, alternately of a fine pale blue and a beautiful yellow. The scales are moderately large; and the covering of the gills, and a great part of the head, as well as the body, are overspread with them. The head is moderately large; the mouth is small; and there is a single beard depending from the chin.

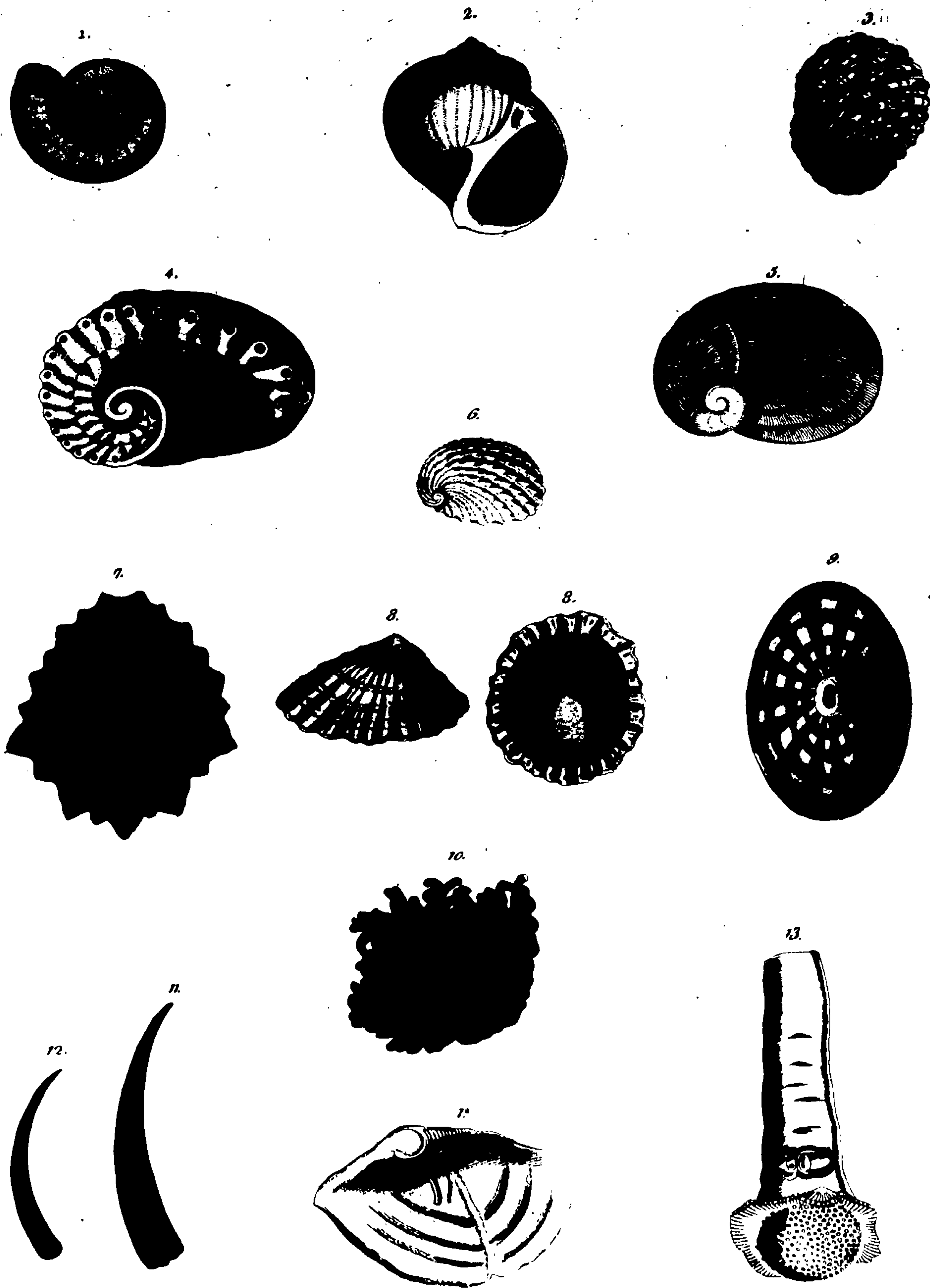
**UMBRA, OR UMBRE.** A bird found in the interior parts of the Cape of Good Hope, about the size of a crow. The bill is three inches and a half in length, compressed, cuneated, and carinated; the head is adorned with a large crest, near three times the length of the head, of an uniform deep brown colour, and pointing backwards; the tail is rounded at the end, brown, tipped with black, and crossed with six black bars; the legs are long, and marked far above the knees with black; the toes are semi-palmated, nearly of an equal length, the back toe being shorter by half than the rest; and the whole body is of the same colour as the crest.

**UMBRINO.** An Italian name for the coracinus, or umbra; though some authors will have the Umbrino to be a distinct species from the coracinus.

**UNICORN.** A creature concerning which many fables have been invented; and which, if it ever did exist, is now to be found no more; unless, rejecting the numerous absurdities and misrepresentations which have been propagated both by the ancients and moderns, we consider it as the rhinoceros unicornis, the only animal in nature that in any respect answers the description of the Unicorn.

Indeed, the ancients themselves appear to have questioned the existence of this creature. The first author who mentioned it was Ctesius, whom Aristotle treats as a suspicious historian. Ælian speaks of it in very doubtful terms: and those subsequent





# PLATE 1. UNIVALVES.

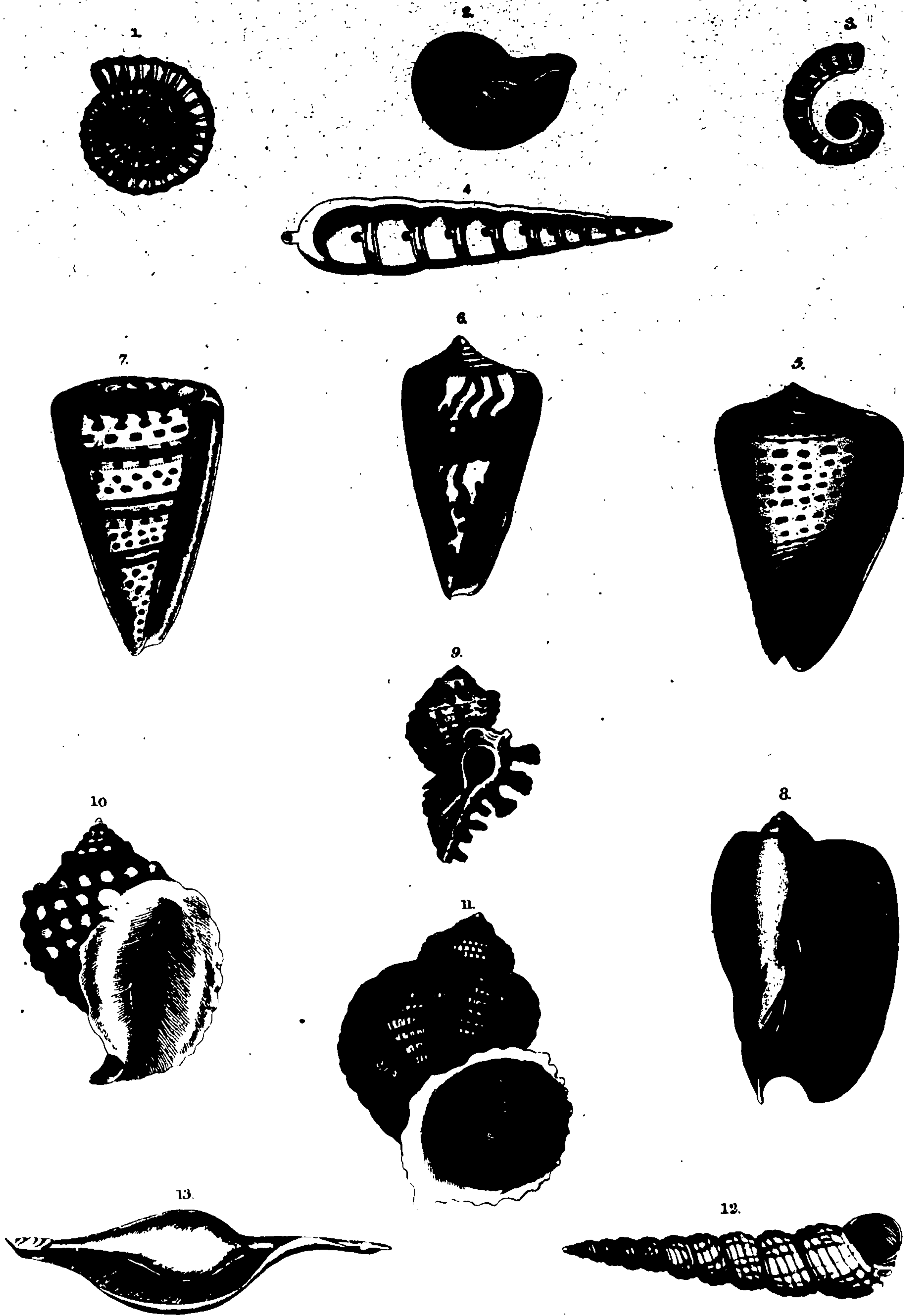
1. HAME HORN SNAIL.  
2. SHORT-TURBANED SNAIL.  
3. MAGPIE NERITE.  
4. EAR-SHELL.  
5. WHITE EAR-SHELL.

6. CHAMBERED LIMPET.  
7. GOAT'S EYE LIMPET.  
8. COMMON LIMPET.  
9. MASKED LIMPET.

10. WORM TUBES.  
11. OWEN-TOOTH-SHELL.  
12. BROWN-TOOTH-SHELL.  
13. WATERING-POT-SHELL.

## MULTIVALVE 1. PHOLAE.





# PLATE I. UNIVALVES.

1. CORNU AMMONIS.  
2. PEARLY NAUTILUS.  
3. LITTORINA.  
4. ORTHOCERAS.

5. YELLOW TIGER.  
6. ADMIRAL.  
7. ALPHABET.  
8. MELON.

9. BEAKED WHELE.  
10. KNOBBED TUN.  
11. SILVER MOUTH.  
12. LONG TURBANED SNAIL.  
13. WEAVERS SHUTTLE.



subsequent naturalists who thought proper to take any notice of it; by their strange contradictions, and the diversity of their opinions, sufficiently evince that they were blundering without a certain object.

What commonly passes among the moderns for the horn of the Unicorn, and is shewn as such in the collections of the curious; we are assured by *Pereyra*, is nothing more than the tooth of a large fish of the whale kind, frequent enough in the Icy Sea, and called by the islanders *Narwal*. Some of these horns or teeth are seven or eight feet long.

**UNICORN, SEA.** A cetaceous fish, called also *Narwal*, remarkable for a horn proceeding from it's nose, after the manner of the supposed Unicorn's horn. In the Linnæan system, it is a species of *monodon*.

This fish feeds on flesh, or other fish; and is not only found in the main sea, but also in large rivers. In 1736, a large one was caught in the river *Oste*, near it's influx into the *Elbe*, four German miles from the sea. The skin of this fish was spotted with dark brown on a white ground; the epidermis was transparent; and under it was another skin very thin and spotted; but the true skin was brown, and nearly an inch in thickness. On the top of the head there was a semilunar hole, as in porpoises; and this hole opened into two channels, which ran through the skull to the palate.

Those who examined this fish were unable to discover any aperture in the body for the discharge of it's excrements; whence it has been generally supposed that the creature voids them through this passage in it's head. Authors differ as to the name of the process issuing from the head; some calling it a horn, and others a tooth. Some are of opinion that it serves to break the ice, for the admission of air; others pretend that it is an offensive weapon, with which the Unicorn wounds the common whale, and other large fish; and that, after plunging it to the head into the whale's body, it sucks the juices of that animal.

The fish caught in the *Oste* was near twenty feet long, and about four feet in diameter. The horn, which stood on the fore-part of the head, just above the mouth, was six feet long, white like ivory, and curiously wreathed or twisted; the body was smooth and slippery, like that of an eel; the head was small in proportion to the body, not exceeding sixteen inches in length; and the eyes were equally small. On each side of the neck there were two black fins, one above the other, at a small distance: these were two feet long, and about half an inch in thickness.

**UNICORN, SEA,** is also an appellation given to two sorts of small fish caught in the American seas, known among authors by the name of *monoceros piscis*.

**UNISETA.** A species of fly, so called from having only one long hair or bristle proceeding from it's tail. See *HEMOTHRIX*.

**UNIVALVE.** A term by which the largest and most beautiful class of shells is denominated. See *SHELLS*.

**VOLVOX.** In the Linnæan system, a genus of the order of zoophytes, and class of vermes. It's distinguishing characters are; that the body is smooth, gelatinous, roundish, without joints, and formed for a vertiginous motion. The

young are roundish, and lodged in small holes in different parts of the body. Linnæus enumerates four species, of which the globe animalcule is one.

**VOLUTA.** A genus of shells: the characters of which are; that the shells are univalve, with an oblong mouth; and a clavicle, sometimes erect, sometimes depressed; and that there are some species coronated at the top.

In the Linnæan distribution, the *Voluta* is a genus of the testacea order, in the class of vermes. The characters are: that the inclosed animal is a slug; and that the shell is univalve and spiral, the aperture narrow without a beak; and the columella or pillar plaited.

Linnæus enumerates forty-six species; among which are the mitres, Persian crowns, cylinders, and other univalves with their pillars plaited or wrinkled. The *Voluta* of other conchologists he denominates *conus*.

In *Da Costa's* arrangement, the *Voluta* constitutes the twelfth family of univalves. This genus of shells is frequently confounded with that of the *cylindri*: however, when accurately examined, they will be found to be very different. The *Volutæ* are of a conic shape. One of their extremities is of a pyramidal figure, and the other formed into high ribs, which constitute a depressed clavicle, or a dentated crown: on the contrary, the cylinder is nearly of an equal size at both extremities; and it is not necessary to recur to the form of the mouth of this shell to fix it's generic character.

The *Volutæ* form the most rich and beautiful shells of the whole body of sea productions. *Rumphius* gives them the epithet of *eximæ*; and the admiral and vice-admiral shells, so famous among the curious, and so highly valued, both belong to this genus. Indeed, the brightness of the colours, the perfect white of the enamel, and the elegant shape of these shells, would render them the first in esteem among this class, were they even common; but, what enhances their value, is, that they are prodigiously scarce. See *SHELLS*.

**UPLOPER.** An appellation by which some writers express a particular species of pigeon, the *columba gutturosa saliens* of *Moore*. It was originally introduced into this country from Holland, and bears a strong resemblance to the pigeon called a pouter, but is smaller. Pigeons of this species have round crops in which they bury their bills, small slender legs, and short close toes; their colours are usually blue, black, or white, being seldom pyed. They receive their name from the Dutch word *Oplopen*, to leap up. They are very scarce and much valued in England.

**UPUPA.** See *HOOPER*.

**URANOSCOPUS.** A fish denominated the star-gazer in England; and *callionymus* by some ichthyologists.

In the Linnæan system, the *Uranoscopus* is a genus of the order of jugulares. It's characters are these: the head is flat, rough, and large; the upper-jaw is shorter than the lower; the branchiostege membrane contains five rays, and is covered with small eminences like teeth; the opercula are membranaceous, and ciliated; and the anus is situated in the middle of the body. There is only one species, the *trachinus* of *Artedi*, with many beards in the lower jaw.

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This fish is commonly about seven or eight inches in length; the head is large, bony, rough, and squarish; and the body is long and rounded. The upper part is ash-coloured; and the belly is white. The scales, which are small and thin, are disposed in oblique ranges across the body of the fish, running towards the tail. The face is flat, and seems to be turned upwards; and the eyes are small and prominent, and so placed in the upper part of the head, as naturally to look upwards; whence the fish receives it's present name.

Providence, indeed, seems wisely to have ordered that the eyes of the *Uranoscopus* should be thus situated; for the fish, keeping always at the bottom, must look for it's food above it. However, it is not the only inhabitant of the deep whose eyes are placed in a similar manner; the rana piscatrix, as well as some others, have the same manners, and enjoy the like advantages.

**URCHIN.** An appellation by which many naturalists express the hedge-hog.

**URCHIN, SEA.** A name by which ichthyologists sometimes express a genus of fishes, of which there are many species.

The manner in which these creatures move at the bottom of the sea has frequently been the subject of dispute among naturalists. The general opinion has been, that their motion is effected by means of their spines or prickles, which serve them instead of legs: but some have maintained, that the spines of Urchins are of no use to them for this purpose; but that they move by means of certain legs, resembling those of the star-fish, which they occasionally protrude or retract. Reaumur, however, who seems to have investigated the subject with much accuracy, is of a contrary opinion. It is a fact, indeed, that the Sea-Urchin does throw out at the lower aperture of it's shell, at pleasure, certain bodies strongly resembling the legs of the star-fish; but these do not at all assist it's progressive motion; on the contrary, their real use is to keep the creature still, and fixed in the same position: and, to describe these instruments more exactly, they may be compared to the horns of snails; whence Reaumur has chosen rather to give them the appellation of horns than legs. The use the Urchin makes of these horns, while in motion, is to feel about, and examine the ground on which it walks; and they are not only placed round the orifice of the shell, but every where dispersed among the spines, entirely over the surface of the shell.

All the spines are capable of assisting the creature in it's motions; but it principally employs those near the mouth. When it has determined which way it shall move, those spines which stand directly toward that point, and those which are immediately opposite, are of equal service. It draws itself forward by means of the first, and pushes itself on with the others: to effect this, it first thrusts out the foremost ones as far as possible; and, pressing them against the bottom, draws on it's body by their assistance; and this is succeeded by drawing up the hinder ones close to it's shell, and then fixing them likewise against the bottom.

Such is the manner of this curious creature's marching in the common way with it's mouth downward: but it possesses this singularity, that it is not confined to that posture alone in moving,

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but can, with equal facility, walk with it's mouth upwards, or run along sideways after the manner of a wheel, or in any intermediate direction. The legs and horns cover all parts of the animal; and are in every part of it capable of moving separately thirteen hundred horns; and upwards of two thousand spines, which serve for legs.

**URIBACO.** A Brazilian sea-fish, somewhat of the figure of the perch. It's back is ridged; it's belly is slightly prominent; and it's length is usually ten or twelve inches. The teeth are small and sharp; the extremities of the gills and gill-fins terminate in a triangular point; the ventral fins are supported by a very rigid and strong spine; a long fin, behind the anus, is sustained by flexible and short spines; and the dorsal fin, which is of an equal breadth, and reaches nearly to the tail, is supported by prickly rays. The tail is deeply bifid; the scales are of a fine silvery whiteness, with a faint cast of pale clear red; the ventral fins are white; and the dorsal fin and tail are reddish. The lateral line is broad, and of a fine red colour; and over and under it, near the tail, on each side, there is a large black spot.

**UROGALIUS MAJOR.** See COCK OF THE MOUNTAIN, and GROUSE.

**UROGALLUS MINOR.** See GROUSE.

**UROMASTIX.** A name given by some naturalists to that kind of lizard usually denominated cordylus.

**VROW-FISH.** A fresh-water fish of the malacostomous or leather-mouthed kind, caught in the German lakes and rivers, and esteemed very delicate. It has some resemblance of the English rudd; but it's body is longer in proportion to it's breadth. The back is brown; the belly is yellow; the ventral fins, near the anus, are a little reddish; and the rest are brown. The scales are large and silvery; in the lower part of the irides there is a blood-coloured spot; and the tail is forked.

The usual size of this fish is seven or eight inches, though it is sometimes caught considerably larger.

**URSA.** See BEAR.

**URTICA ERRANS.** A marine animal, resembling the common *Urtica Marina* in many particulars; but as that is always fixed down to the rocks, this species is always found loose.

It has been generally supposed that these creatures affect the skin with a stinging pain like nettles; but Reaumur, who saw prodigious numbers of them on the coasts of Poictou, declares that he discovered no such quality in any of them, any more than in those fixed to the rocks.

In substance, these animals nearly resemble a stiff jelly; and, if one of them be taken into the hand, it will speedily melt into clear water. Nevertheless, they are true and perfect animals, of various species and colours; though their general figure may be expressed by that of the head of a large mushroom: their upper surface is convex in the same manner; and this convexity is greater or less in the different kinds, as it is in the different species of mushrooms.

**URTICA MARINA.** A remarkable genus of aquatic animals; so called from a supposition of their affecting the skin, on touching them, with a painful sensation like the stinging of nettles. These are animals of the lowest class; and have



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have been considered by many as zoophytes, or plant-animals. Some of the species are found loose on the smooth shores, and others fixed to those rocks which are always covered with water. This has occasioned them to be divided into two classes; a distinction as old as Aristotle; those which move being called *Urticæ solutæ*, and referred by Linnæus to the genus of medusa, called also *Urtica errans*; and such as are usually fixed to the rocks, though capable of a locomotive power, being generally called *Urtica Marina*, and belonging to the *Actinia* of Linnæus.

These creatures assume so many different forms, that it is impossible to give any precise description of their figure. The most natural and general shape seems to be that of a truncated cone, the base of which is applied to the rock; but this base is often round, often elliptic, and very frequently of a perfectly irregular figure. The surface of the top of the cone is not flat, but convex; and has an aperture in it's centre, which the creature enlarges or contracts at pleasure. In some positions, the whole fish not unaptly resembles a purse; with this difference only, that the body is not drawn up into any folds or wrinkles by the closing of the aperture or mouth. In the middle of this purse, as it may be called, is placed the body of the fish, touching this exterior covering at the bottom on every side. At it's top, however, it is loose, and stands every way clear of it's covering. The sides are more or less distant from this free or loose part of the body, as the aperture of the top of the cone is more or less open: when it is nearly shut up, very little of the body of the animal can be seen; but, when it opens it's mouth to different widths, more or less of the body becomes visible; and, when it is at the widest, every part of it, and all the horns, are seen perfectly distinct. These horns resemble those of the common snail; but, in their use, they seem more allied to the pipes or proboscides of the *chamæ* kind, the fish generally spouting out water from them on being touched. They are arranged in three rows on the internal surface of the covering, and are very numerous; their whole number amounting to one hundred and fifty at least.

The progressive motion of this animal seems to be thus performed. When it has determined on it's route, it distends all the tubes on that side of it's body which is placed towards the point it wishes to move to: this, from it's round shape at the base, gives it an oblong one; that is, it throws the fore-part somewhat forward on the rock; and at the same time, if the tubes on the opposite side of the body be all left empty, and those which are naturally circular be distended, these of consequence draw the whole body toward the fore-part, whereby a small advance is made and preserved; and this being often repeated, gives a locomotive power to the creature. All this, however, is performed so very slowly, that though there is a continual change going on both as to figure and place, yet, if the eye is continually kept on the object, neither is perceptible; but, if taken off for a short space, and the place and figure again investigated, both will be found different.

The food of the *Urtica Marina* is no less singular than it's formation and motions. Strange as it may appear in an animal of this kind, it's constant food is the flesh of muscles, sea-snails, and other shell-fish. It finds means to admit the shell-fish whole into it's body, and then closes the aper-

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ture fast upon it: here it keeps the prey as long as it pleases, and then discharges the empty shell by the same aperture, which it can contract or expand occasionally. By what means the *Urtica* is able to extract the flesh from these shell-fish, is not known, as the whole process is performed within the body; certain, however, it is, that it frequently fails in the attempt, and is obliged to disgorge the shell-fish alive.

It has been discovered that this creature possesses the remarkable reproductive quality of the polype. Reaumur tried various experiments on the different species of this and the star-fish kind, and found that, whatever parts were amputated, the wound soon healed: and M. De Villars, who watched the whole progress of the growth of the amputated part, perceived that the animal not only appeared alive and healthy after cutting, but also soon regained what it had lost, and speedily became as perfect as before.

Gaertner refers the *Urtica Marina*, or Sea-nettle, to the *Hydra* of Linnæus, commonly called the polype; since it agrees with that genus in the following general and essential characters, as well as several subordinate ones: it is of a gelatinous substance; it has only one aperture in it's body, which gives a passage to it's food, as well as to it's excrements; and it has also a set of feelers which surround this opening, serving for claws to catch it's prey, and to convey it to it's mouth.

The Greeks and Romans knew these animals under the appellations of *Pneuma Thalassios*, and *Pulmo marinus*, or sea-lungs. They ascribed several medicinal virtues to them. Accordingly Dioscorides informs us, that they cure the gout in the feet, and kided heels, if rubbed fresh on the diseased part: and *Ælian* says they are so depilatory, that, if macerated in vinegar, they would extirpate the very beard. Pliny remarks their phosphoric quality; and asserts, that a stick rubbed with them will seem to burn; and the whole wood to become lucid: he also adds that, when they sink to the bottom of the sea, they portend a continuance of bad weather.

**URUBU.** A name by which some ornithologists have expressed the vulture. See *Vulture*.

**URUS.** A species of wild bull; of a very remarkable size and strength. Cæsar, in his *Commentaries*, has described it as little inferior to the elephant in size; and resembling the bull in shape, figure, and colour. He adds, that it is very swift and fierce; and has horns much larger, and very different from those of the common bull.

The *Urus*, or Wild Bull, is now chiefly found in the province of Lithuania; and, according to Klein, arrives at a size which scarcely any other animal except the elephant is known to equal. It is quite black, except a stripe, mixed with white, that runs from the neck to the tail along the ridge of the back; the horns are short, thick, and strong; the eyes are fierce and fiery; the forehead is adorned with a kind of garland of black curled hair, and some varieties are found to have a beard of the same; the neck is short and strong; and the skin has a musky smell. The female, though inferior in size to the male, exceeds the largest of our bulls in magnitude; nevertheless, her udder and teats are so small, that they can scarcely be perceived. On the whole, however, this animal resembles the tame one very exactly, except in some trifling varieties, which a state of



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freedom, or the luxuriance of the pasture where it is produced, may easily have occasioned.

**UTAMANIA.** A bird of the web-footed kind, without the hinder toe, common about the island of Crete, and remarkable for its activity and agility in diving. It is nearly of the size of a teal. The head and back are black; and the belly is white. The feathers resemble down rather than plumage; but, though soft and slender, they are very firmly affixed to the skin. The beak is sharp at the edges, and in a great measure covered with down.

From the description and figure given us by Bellonius, it appears that this bird has a strong affinity to the razor-bill, if indeed at all differing from it.

**VUBARANA.** An American fish of the harengiform kind, nearly resembling our river-trout. Its body is almost of an equal thickness the whole length; but is slightly elevated on the back, and somewhat slender near the tail. It grows to the length of one foot, and is about six inches in thickness. The flesh is very delicate, and much esteemed.

**VULPANSER.** An appellation by which some authors express the shieldrake, or burrow-duck; a very beautiful species of duck, common on some of our coasts, and denominated tadorna by the generality of ornithologists.

**VULPECULA.** A name by which Bellonius and Gesner express the fish more generally known by the appellation of centrine.

**VULPES.** The classical appellation for the fox.

**VULPES MARINA.** See SEA-FOX.

**VULTURE.** A genus of birds of the hawk kind. The characters are these: the bill is straight, being hooked only at the extremity; the head is destitute of feathers; the base of the bill is covered with a naked skin; and the tongue is bifid. Linnæus enumerates eight species; namely, the gryphus, or condor; the harpyia, or crested eagle; the papa king of Vultures; the monachus; the aura, or urubu of Brazil; the bearded, golden, or Boetic Vulture of Egypt; and the albiulla, or pygargus.

In the description of birds, the first rank has usually been adjudged to the eagle; not because of its being stronger or larger than the Vulture, but because it is more generous and intrepid. The eagle, unless pressed by hunger, will not be satisfied with carrion; nor will he ever devour what has not been earned by his own pursuit: the Vulture, on the contrary, is indelicately voracious; and seldom attacks living animals when it can be supplied with dead ones. The eagle meets, and singly opposes his enemy: the Vulture, if it expects resistance, calls in the aid of its kind, and basely overpowers its prey by a cowardly combination. Putrefaction and stench, instead of deterring, only serve to allure them. The Vulture is among birds what the jackall and hyæna are among quadrupeds; it preys on carcases, and disinters the dead.

Vultures are easily distinguished from birds of the eagle kind by the nakedness of their heads and necks, which have no other covering than a very slight down, or a few scattered hairs. Their eyes are more prominent, those of the eagle being in a great measure buried in their sockets; their claws are also shorter, and less hooked. They differ considerably from all other birds of prey, in hav-

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ing the inside of their wings covered with a thick down; their attitude less erect than that of the eagle; and their flight more difficult and heavy. They are still more strongly marked by their nature, which, as before observed, is cruel, indolent, and unclean. Their sense of smelling is amazingly perfect, nature having supplied them with two large apertures or nostrils without, and an extensive olfactory membrane within. Their intestines are differently shaped from those of the eagle kind, for they partake more of the form of such birds as live on grain. They have both a crop and a stomach; and, in fact, from their internal structure, it would seem that they are equally adapted for a carnivorous or frugivorous life.

Vultures, though common in many parts of Europe, and but too well known on the Western Continent, are absolute strangers in England. In Arabia, Egypt, and many other kingdoms of Africa and Asia, they are extremely numerous; and the down on the inside of their wings is converted into a very warm and comfortable kind of fur, and commonly sold in the Asiatic markets.

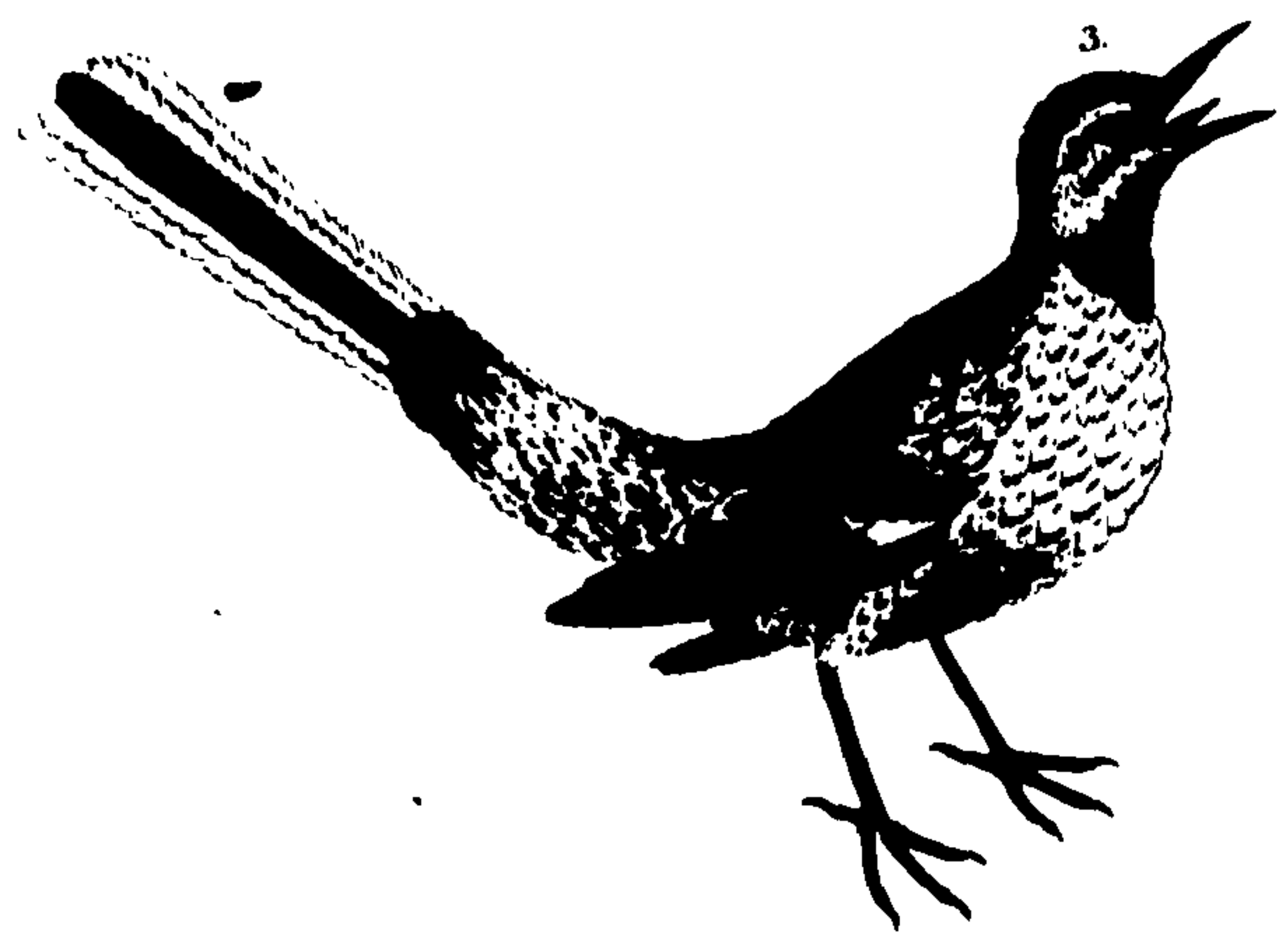
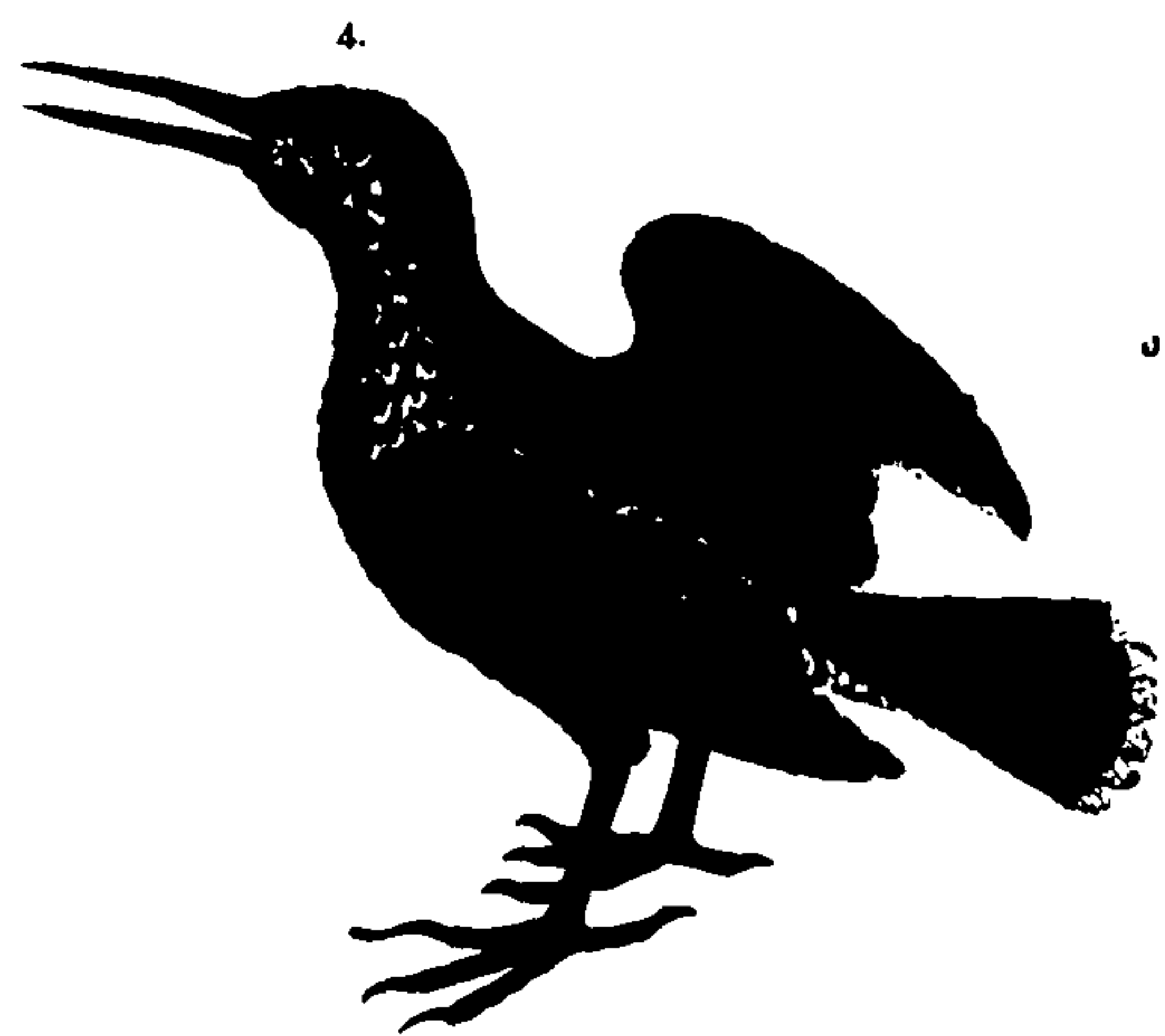
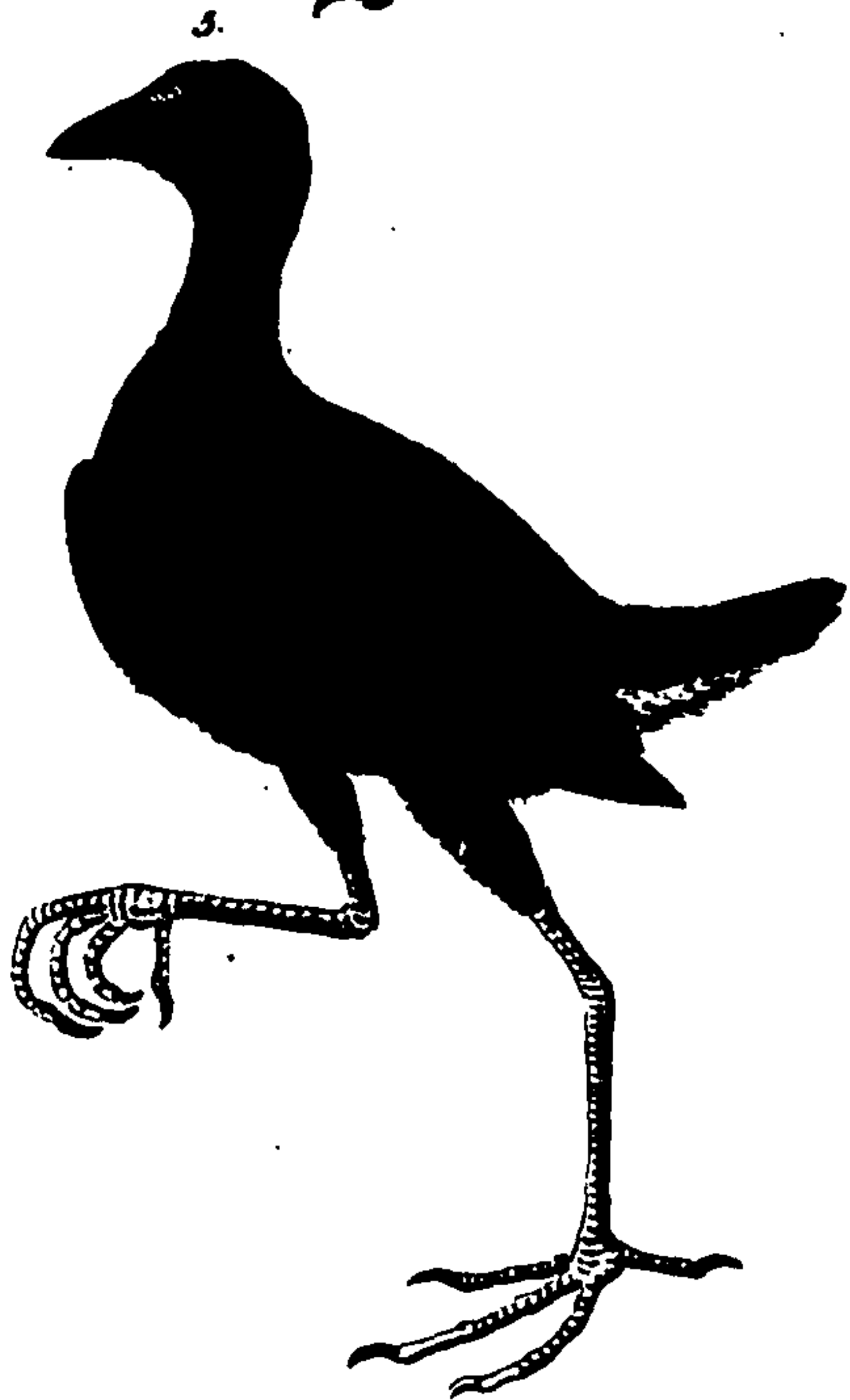
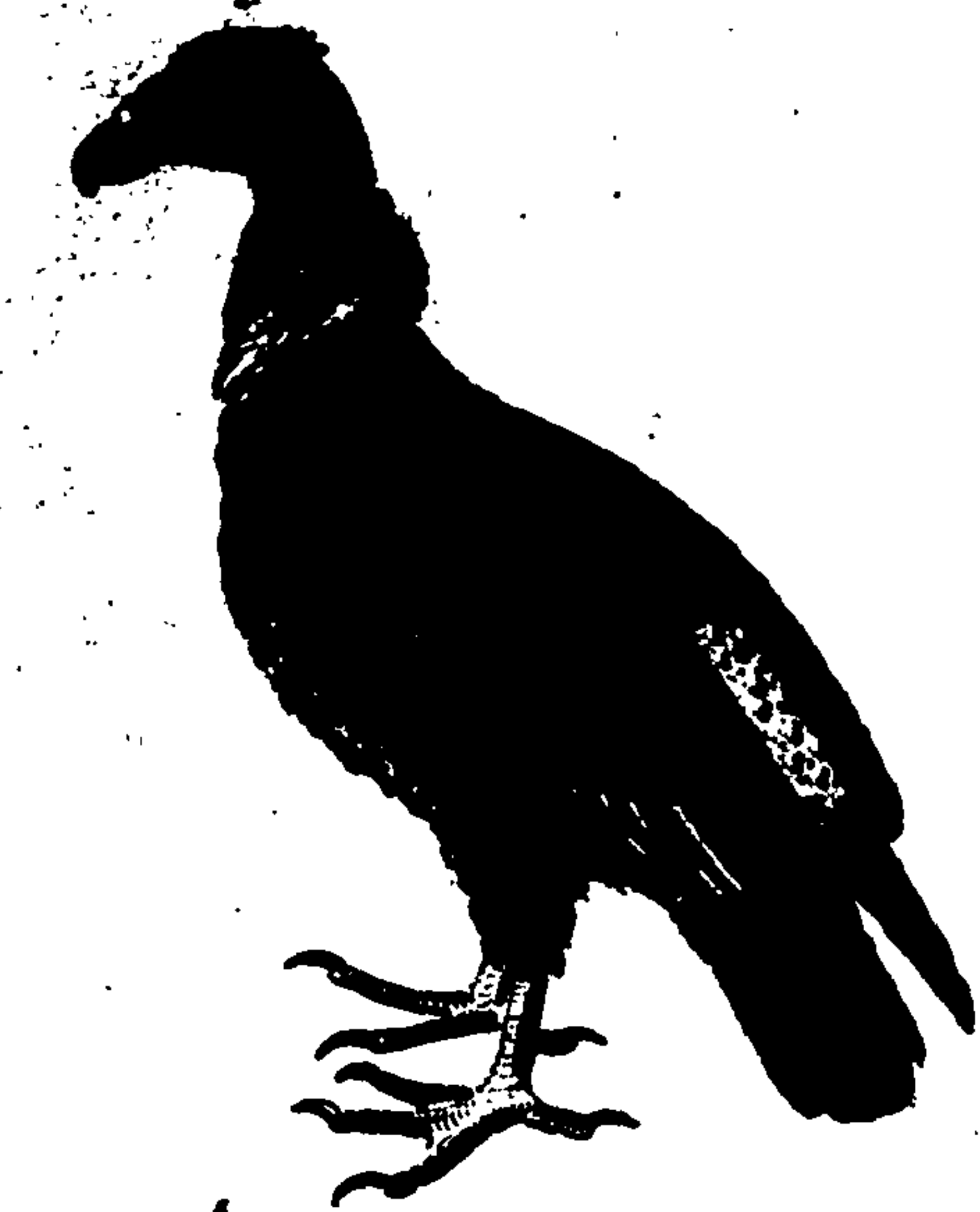
These birds are of singular service in Egypt. In the vicinity of Grand Cairo there are large flocks of them, which none are permitted to destroy, because they devour all the carrion and filth of that great city, which might otherwise tend to contaminate the air. They accompany the wild dogs of that country; and frequently feed with them very deliberately on dead carcases. As both are extremely voracious, and both lean and bony to a very great degree, it is remarkable that this odd association produces no quarrels: on the contrary, these birds and beasts seem to live together on very amicable terms.

In America, where the hunters pursue quadrupeds only for the sake of their skins, these birds are generally observed to attend. They continue hovering at a little distance; and, as soon as the animal is flayed and abandoned, they call to each other, fly eagerly to the carcase, and in a very short time lay the bones entirely bare.

At the Cape of Good Hope, these predaceous birds seem to discover a still greater share of dexterity in their methods of carving. 'I have,' says Kolben, 'been often a spectator of the manner in which they have anatomized a dead body; I say anatomized, for no artist in the world would have done it with more address. They have a wonderful method of separating the flesh from the bones, and yet leaving the skin quite entire. On coming near the carcase, one would not suppose it thus deprived of its internal substance, till he began to examine it more closely; he then finds it, literally speaking, nothing but skin and bone. Their manner of performing this operation is as follows: they first make an aperture in the belly of the animal, from whence they pluck out and greedily devour the entrails; then entering into the hollow they have made, they separate the flesh from the bones, without ever injuring the skin. It often happens that an ox, returning home alone to its stall from the plough, lies down by the way: it is then, if the Vultures perceive it, that they fall with fury down, and inevitably devour the unfortunate animal. They sometimes also attempt them grazing in the fields; and then, to the number of an hundred, or more, make their attack all at once and together.'

Catesby informs us, that they are attracted by carrion at a very great distance. 'It is pleasant,'





1. KING OF THE VULTURES. 2. CRESTED BLACK VULTURE. 3. GREY WAGTAIL. 4. WALL-CREEPER.  
5. PURPLE WATER-HEN. 6. SPUR-WINGED WATER-HEN.



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say he, to behold them when they are feeding, and disputing for their prey. An eagle generally settles on a short entertainment, and makes them all keep their distance till he has satisfied himself. They then fall to with an excellent appetite; and their sense of smelling is so exquisite, that the instant a carcass drops, we may see the Vultures floating in the air from all quarters, and come fousing on their prey. It is supposed by some, that they eat nothing which possesses life; but this happens only when they are unable to overcome their prey; for, when they discover lambs, they show no mercy; and serpents are their ordinary food.

The indolence, voracity, and filthiness, of these birds, almost surpasses belief. In the Brazils, where they are found in great abundance, whenever they discover a carcass which they are at liberty to tear at their ease, they so gormandize as to be unable to fly. At all times, indeed, they are birds of a low flight, and can hardly raise themselves from the ground; but, when over fed, they are entirely helpless: however, when pursued, they soon get rid of their burden; for, possessing the faculty of vomiting up what they have eaten, they fly off with greater facility.

To be a spectator of the hostilities between noxious or hateful animals, is generally very entertaining; and, of all creatures, the two most at enmity are the Vulture and the crocodile of the Brazils. The female of the latter (which in the rivers of that country grows to the size of twenty-seven feet) lays from one to two hundred eggs in the sands on the side of the river, where they are hatched by the heat of the climate. The crocodile uses every precaution to conceal from all other animals the spot where she deposits her burden; but an assembly of Vultures sit silent and unseen in the lofty trees of some neighbouring forest, and observe the operations of the crocodile with the pleasing expectations of succeeding plunder: they patiently wait till she has laid the whole number of her eggs, covered them in the sand, and retired to a convenient distance; and then they suddenly pour down on the nest, uncover the eggs, and devour the whole brood in an instant.

Some persons, when pressed by Hunger, have been tempted to taste the flesh of the Vulture: but it is lean, stringy, nauseous, and unfavoury; smells and tastes of the carrion by which it was nourished; and sends forth an almost insupportable stench.

These birds usually lay two eggs at a time, and produce but once a year. They build their nests in inaccessible cliffs; and other situations so very remote, that they are seldom seen. Those in Europe principally reside where they breed, seldom venturing into the plains, except when the snow and ice, in their native retreats, have banished all living creatures but themselves: then they descend from their heights, and brave those perils which they must encounter in more cultivated regions.

Such are the manners of this bird in general; indolent, filthy, and rapacious. The whole genus agrees in those leading characters; and their diversities are chiefly those of climate, size, or colour. The following are the most remarkable species.

**VULTURE, GOLDEN.** This bird resembles the golden eagle in various particulars, but is larger in every proportion. It is four feet and a half in length from the tip of the beak to the extremity of the tail; and, to the end of the claws, forty-five inches. The length of the upper chap is about seven inches; and the tail is twenty-seven inches.

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The lower part of the neck, breast, and belly, are red; the feathers on the back are blackish; and on the wings and tail of a yellowish brown hue.

**VULTURES, KING OF THE.** The King of the Vultures is a native of America; and somewhat larger than a turkey-cock. It is chiefly remarkable for the singular formation of the skin of the head and neck, which is bare: this skin, which is of an orange colour, arises from the base of the bill, and extends on each side to the head; from whence it proceeds like an indented comb, and falls on either side, according to the motion of the head. A scarlet-coloured skin surrounds the eyes; and the irides have the colour and lustre of pearl. The head and neck are destitute of feathers, having a flesh-coloured skin on the upper part, a fine scarlet behind the head, and a dusky coloured skin before. Farther down behind the head, there rises a tuft of black down; from which issues a wrinkled skin, which extends beneath the throat on each side, of a brownish colour, mixed with blue and reddish behind. Below, on the naked part of the neck, a collar is formed of soft longish feathers of a deep ash-colour, surrounding the neck, and covering the breast before. The bird sometimes withdraws it's whole neck, and frequently a part of it's head, into this collar; and appears to view as if the head issued immediately from the body.

By these marks the King of the Vultures is sufficiently distinguished from all others of the kind: and it cannot be denied, that it is by far the most beautiful of this deformed family; but neither it's habits nor instincts differ from those of the cowardly, indolent, and filthy tribe, to which it belongs.

**VULTURE, BEARDED.** This bird is about the size of an eagle, measuring three feet four inches from the tip of the bill to the extremity of the tail. The expansion of the wings is seven feet six inches; and the primaries are upwards of twenty-three inches in length. The bill is flesh-coloured, inclining to purple, darkest at the point; and about four inches in length. From the base of the lower chap hangs a remarkable tuft of black feathers. The eyes are situated just above the part where the mouth extends, each eye having a brightish yellow circle. The sides and fore-part of the head are black; the nostrils are covered with black stiff feathers; and from each angle of the mouth proceeds a blackish line, which tends a little downwards, in the shape of whiskers. The rest of the head, and the whole of the neck, are covered with white feathers; which on the latter are long, loose, and pointed, like those of a cock; and on the former short and smooth. The upper side of the neck, the back, wings, and tail, are of a dark brown colour; and the lesser coverts of the wings have dashes of a bright reddish brown along the shafts, but very narrow. The bottoms of all the feathers are white; and there is also a very thick, soft, white down, all over the body, beneath the feathers. The under side of the breast, belly, thighs, and coverts under the tail, are white, tinged with a reddish brown; and the legs are covered with short white downy feathers. The feet are of a leaden colour; the claws are dusky; and the middle and exterior toes on each foot are united by a strong skin.

This bird is a native of Barbary; and was first figured and described by Edwards.

**VULTURE, BRAZILIAN.** This species, called also the Mexican Vulture, according to Marcgrave,



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grave, is about the size of a kite; but Ray says that it is not inferior in magnitude to the common Vulture. It has a long tail; and the whole plumage of the body is black. The head is small, and covered with a wrinkled skin of various colours; being yellow on the left side below the eye, and blue above, as well as on the top of the head: the remaining part is reddish. The beak is pretty long, very crooked, and covered half way with a saffron-coloured skin. In the middle of the upper part of the beak there is a wide nostril, with only one aperture, placed crosswise. The extreme part of the beak is white, and destitute of any skin; and the eyes are ruby-coloured, with round black pupils.

Labat calls these birds a kind of turkey-cocks, which feed wholly on carrion, and never touch fruit, corn, or herbage.

**VULTURE, TAWNY.** This species, which is a

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native of the Falkland Islands, is about two feet four inches long. The bill is dusky, short, and thick, and covered at the base with a large, thick, bristled cere. The nostrils are small, and placed obliquely near the edge of the bill; the space between the bill and the eyes is naked; and the rest of the head is covered with plumage. The chin is bearded with a tuft of long slender feathers; the head, neck, back, breast, belly, and thighs, are of a pale tawny colour; the coverts of the wings are mixed with brown; and the tail, which is long and rounded, is of a dirty white hue, barred with narrow oblique strokes of brown. The legs are long, slender, and blueish; and the claws are long, and slightly bent.

The brown, the spotted, and the black Vulture of Egypt, agree with the general description of the Vulture; and are chiefly distinguished by their colour.

## W.

**WAGEL.** An appellation by which the natives of Cornwall express a species of the larus, or sea-gull; known among some ornithologists by the name of martinazzo.

In the Linnæan system, the Wagel is the *Larus Nævius*. The whole plumage of the head and body, above and beneath, is a mixture of white, ash-colour, and brown: the last colour occupies the middle of each feather; and is pale in some birds, in others dark. The quill-feathers are black; the lower part of the tail is mottled with black and white, towards the end of which there is a brown black bar; and the tips are white.

Some writers have considered the Wagel as the young of the herring-gull; but Pennant seems to have established the contrary opinion on the most permanent foundation. It has also obtained the name of the dung-hunter; probably for the same reason that others of it's genus have been dignified with that title.

**WAGTAIL.** A genus of passeræ: the characters of which are; that the bill is straight and subulated; the mandibles are almost equal; the tongue is lacerated, and has a margin or run round it; and the nostrils are ovated. Linnæus enumerates fifty-nine species; among which are the nightingale, black-cap, petty-chaps, reed-sparrow, stone-chatter, wheat-ear, whin-chat, white-throat, wren, &c.

All birds of this kind have very long tails, which are always in motion; and from this circumstance they receive their name.

**WAGTAIL, WHITE;** the *Motacilla Alba* of Linnæus. This bird weighs about six drams; is eight inches long from the tip of the bill to the extremity of the tail; and the expansion of the wings is eleven inches. The head, back, and neck as far as the breast, are black; in some the chin is white, and the throat marked with a black crescent. The breast and belly are white; the quill-feathers are dusky; and the coverts are black,

tip and edged with white. The tail is very long, and continually in motion: the exterior feather on each side is white, the lower part of the inner web excepted, which is dusky; and the others are black. The bill, the inside of the mouth, together with the legs, are black; and the back claw is remarkably long.

This species frequents the sides of ponds and small streams; and feeds on insects and worms like the rest of the genus. It shifts it's quarters in Winter, directing it's course from the north to the south of England; and in Spring and Autumn it constantly attends the plough, in pursuit of such worms as are turned up by that instrument. In some places it builds it's nest under the eaves of houses, in the holes of walls; and lays four or five eggs.

**WAGTAIL, YELLOW;** the *Motacilla Flava* of Linnæus. This species has a straight, sharp-pointed black bill, except at the base of the lower chap, which inclines to a flesh-colour. The irides are hazel; and the top of the head, the upper part of the neck, and the back, are ash-coloured, slightly edged with yellowish green.

The male is a most beautiful bird; the breast, belly, and thighs, being of a most vivid and beautiful yellow colour. The throat is marked with some large black spots; a bright yellow line passes above the eye, and below that another of a dusky hue, from the bill across the eye; and beneath the eye there is a third line of the same colour. The head, the upper part of the neck, and the back, are of an olive-green colour, which brightens in the coverts of the tail.

The colours of the female are more obscure than those of the male; and she is destitute of the black spots on the throat. The legs and feet are of a dusky colour; and the claw of the hind toe is pretty long.

This bird makes it's nest on the ground, among corn, bents, and stalks of herbs; and lines the inside



side with hair. It lays four or five eggs, variegated with dusky spots and irregular lines.

**WAXWING, GRAY, the Motacilla Ventrals of Linnæus.** This bird has a slender, straight bill, of a dusky colour, terminating in a point. The top of the head, the upper part of the neck, and the back, are ash-coloured; the space round each eye is also ash-coloured; beneath and above which there is a line of white.

In the male, the chin and throat are black; the feathers incumbent on the tail are yellow; and the tail is longer, in proportion to its size, than that of any other species. The breast, and the whole under side of the body, are yellow; and the quill-feathers are dusky, those next the back being edged with yellow.

In the female, the black spot on the throat is wanting; the colours in general are more obscure than those of the male; and the legs, feet, and claws, are of a dusky colour.

The Grey Wagtail frequents pebbly rivers; and feeds on insects.

**WAGTAIL OF JAMAICA.** This bird has a small head; and a straight black bill, with a blueish cast towards the base. The head and lower part of the neck are black; but the upper part is yellow; and the whole of the back, breast, and lower part of the belly, are also yellow. The wings are black, with a white spot in the middle; the tail is likewise black; and the feet are brown.

The tail of this species is nearly four inches long; which circumstance, together with the colours of the plumage, induced Ray to place it among the Wagtails; but Marcgrave says that it neither feeds nor wags its tail like birds of this kind.

**WAGTAIL, GREEN.** This beautiful species is a native of Ceylon. The head is cinereous; the neck, back, and breast, are of a pale green colour; the wings and tail are cinereous, edged with white; and the belly is white.

**WALDRAPP.** An appellation by which some ornithologists express the wood-raven, or *Corvus Sylvaticus* of Gesner; a bird about the size of a hen, of a glossy black colour, and adorned with a beautiful crest.

**WALKING LEAF.** A West Indian insect, having a very flat body; and of a reddish colour, resembling that of certain dry leaves; that is, at particular seasons of the year, for at first it is green. It is produced from a green egg about the size of a coriander seed, from which, in a few days, a small black insect is hatched. The wings are at first as green as a fresh leaf, with fibres running along them from the inner to the outer edges after the manner of many kinds of leaves, and branching into subdivisions as they approach the edge. On the fore-part of the body there are four other small wings, which, though they differ from each other, every pair being dissimilar, yet they exactly resemble some sorts of leaves. When the larger wings are shut, the insect exactly resembles a leaf; and hence it has obtained the appellation of the Walking Leaf. The eyes are small and prominent; and the mouth is forked. The head is round; about the neck there is the resemblance of a ring of the same colour as the body; and behind this the neck becomes much larger, so that it appears like a second head. The whole insect is about three inches in length, and one inch and a half in breadth.

**WALL-CREEPER.** This bird, to which *Alcedo* gives the appellation of the spider-catcher, is about the size of a starling; and has an

oblong, slender, black bill. The neck, head, and back, are ash-coloured; and the breast is whitish. The wings are partly ash-coloured, and partly red; and the long feathers on the wings below the back are black. The tail, the belly, and the thighs, are black and short like those of wood-peckers; and the toes are long, of which three are placed before, and the other supplies the place of a heel.

This bird receives its name from creeping up walls, after the same manner as wood-peckers climb trees. It builds its nest in the holes of trees; and is sometimes found in England, but not very commonly.

**WALRUS.** An appellation by which some authors express the morse, or sea-horse; the *Trichechus Rosmarus* of Linnæus.

Pennant mentions two species of these animals; one of which he distinguishes by the name of the Arctic Walrus; and the other by that of the Indian Walrus. The former inhabits Spitzbergen, Nova Zembla, and Hudson's Bay; the latter the Cape of Good Hope, and the Philippine Islands. See MORSE.

**WANDEROW.** A sort of baboon, common in Ceylon and Malabar.

**WANDSU.** A species of Ceylonese monkey, of a fine deep black colour all over the body, except a long beard depending from the chin, which is of a snowy whiteness.

**WANT, or WONT.** A provincial name for the mole.

**WAPPER.** An appellation sometimes used to express the smaller sort of river-gudgeon.

**WARBLERS.** A term by which Pennant distinguishes an order of birds; comprehending the nightingale; red-start; red-breast; black-cap; petty-chaps; hedge-sparrow; yellow, golden-crested, and common wren; the sedge-bird, or lesser reed-sparrow; the tit-lark; the wheat-ear; whinchat; stone-chatter; and white-throat. Their general characters are these: the bill is slender, and weak; the nostrils are small, and sunk; and the exterior toe is joined at the under part of the last joint to the middle toe.

**WARBLER, OLIVE-COLOURED.** This beautiful little bird, which is of the motacilla kind, and inhabits Ceylon, is about the size of a hedge-sparrow. The bill is whitish, beset with pale yellow feathers; the head, the whole upper part of the body, the wings, and the tail, are of an olive white hue; and the breast and belly are white.

**WARBLER, BROWN.** This bird has a yellowish brown bill, a little incurvated; the colour is entirely brown, marked on the back, wings, and tail, with numerous dusky bars; and the legs are of the same colour as the bill.

**WARBLER, GREEN.** This species, which inhabits the East Indies, is said to change into a variety of beautiful colours like the humming-bird. The bill is dusky brown; the head, neck, back, coverts of the wings, and tail, are variable green; and the breast and belly are yellow.

**WARBLER, PINK-COLOURED.** This bird, which inhabits Ceylon, and belongs to the muscicapa or fly-catcher kind, is about the size of the wren. The bill is reddish; the neck, head, back, breast, and coverts of the wings, are of a pale pink colour; and the legs are red.

**WARINE.** A Brazilian monkey of the sapajous kind; called also Guariba.

**WARRIE.** A name by which Wafer describes an animal of the hog kind, a native of the Isthmus of Darien.



## W A S

**WASP.** A genus of the hymenoptera order of insects; the characters of which are these: the mouth has maxillæ without any proboscis; the upper wings are plicated; the sting is pointed and concealed; the eyes are lunar; and the body is naked and smooth. Linnæus enumerates twenty-eight species.

The bee and the Wasp resemble each other very strongly; yet, if we examine their natures and periods of duration, they will be found to differ very widely. The bee labours to lay up honey, and lives to enjoy the fruits of it's industry: the Wasp appears equally assiduous; but toils for posterity only, as the habitation is scarcely completed when the inhabitant resigns it's being. The Wasp is well known to be a winged insect, furnished with a powerful sting; to be longer, in proportion to it's bulk, than the bee; to be marked with bright yellow circles round it's body; and to be the most swift and active insect of all the fly kind. On each side of the mouth, it is furnished with a long serrated tooth; and with these it is enabled to cut any substance, and to carry it to it's nest. Wasps, like bees, live in communities; and sometimes ten or twelve thousand inhabit a single nest.

Wasps, when enraged, are the most fierce and dangerous of insects, and at all times the most voracious. Wherever flesh is cutting up, they may be seen gorging themselves, and flying to their nests with the spoil. They are also inimical to every other kind of fly; and the spider, with all it's malignity, dreads the approach of this superior foe.

Every community among bees is composed of females or queens, drones or males, and neutral or working bees. Wasps have likewise similar occupations: the two first are for the propagation of the species; the last for nursing, defending, and supporting the nascent progeny. Among bees, however, there is seldom more than one or two queens in a hive; but, among Wasps, there are frequently more than two or three hundred.

No sooner does the genial influence of summer begin to invigorate the insect tribes, than the Wasps are seen in prodigious numbers, diligently employed either in gathering provision for their nest, if already made; or in making one, if the former retreat has been found too small for the increasing community. Their nest forms one of the most curious objects in natural history; and discovers almost as strong marks of ingenuity and contrivance as the cells of bees. The principal care of the Wasp kind is to seek out a hole that has been begun by some other animal, a field-mouse, a rat, or a mole, in which to build their nests. They sometimes fix their habitations on a plain, where they are sure of the dryness of their situation; but most commonly on the side of a bank, to avoid the effects of rain or other water. Having pitched on a proper spot, they proceed to work with unwearied assiduity: with indefatigable pains they first erect the walls of their retreat, which is shaped somewhat like a pear; and then provide a double entrance, with design either to admit the warmth of the sun, or to allow of egress, should one of the doors be invaded by plunderers. They next labour at their cells, which they form of a paper-like substance, the same as that which composes their outside works. Their combs differ from those of bees not less in their composition than in their position. The honey-combs of bees are edge-ways with respect to the

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hive; those of Wasps are flat, and the mouth of every cell opens downwards. Thus is their habitation contrived, story above story, supported by several rows of pillars, which give stability to the whole building; while the upper story is flat-roofed, and as smooth as the pavement of a room laid with squares of marble. The Wasps can freely walk on these stories, between the pillars, and perform whatever their wants may require. The pillars are very hard and compact, being larger at each end than in the middle. All the cells of the nest are destined only for the reception of the young, being totally destitute of either wax or honey.

The cells, like those of bees, are hexagonal; but they are of two sorts; the one larger, for the production of the male and female Wasps; the other less, for the reception of the working part of the community.

When the females have been impregnated by the males, they lay their eggs, one in each cell, and fasten it in with a kind of gummy matter. From this egg the insect proceeds in it's worm state; of which the parents are extremely careful, feeding it from time to time, till it acquires a sufficient size to fill the cell destined for it's reception. But the Wasp society differs from that of the bee in this; that among the latter, the working bees assume the parental duties; whereas the females alone of the Wasp kind are permitted to nurse their rising progeny. For this purpose, the female waits patiently till the working Wasps have returned with their provisions, which she receives, and cuts into fragments. She then proceeds with great composure from cell to cell, and feeds the young Wasps in order with her mouth.

When the brood have attained to a certain magnitude, they leave off feeding, and begin to spin a very fine silk, fastening the first end to the entrance of the cell; then turning their heads, first on one side, then on the other, they fix the thread to different parts; and thus they form a sort of door, which serves to close up the mouth of the cell. After this they divest themselves of their skins by the usual method of transformation: the aurelia begins by degrees to emancipate itself from it's shell; by little and little it protrudes it's legs and wings; and imperceptibly acquires the colour and shape of it's parent insect.

Thus formed, and prepared for depredation, the Wasp soon becomes a bold, troublesome, and dangerous insect: it despises perils when in pursuit of it's prey; and it's gluttony seems insatiable. Though incapable of collecting honey itself, no creature is fonder of sweet substances; for the attaining which, it will pursue the bee and humble bee, disable them with it's sting, plunder them of their honey-bags, and then fly triumphantly to it's nest, in order to regale it's young with the spoil.

Wasps generally form their nests in the vicinity of bees, merely for the sake of opportunely robbing their hives, and feasting on the honey. Yet the bees are not always patiently submissive to these tyrants; but fierce battles sometimes ensue, in which the former, by their conduct and numbers, compensate for the want of personal bravery. When the Wasps happen to be disappointed of honey, they have recourse to the best and sweetest fruits, and are never mistaken in their choice. From the garden they fly to towns and villages, to shops and shambles; from whence they sometimes carry off pieces of flesh half as big as themselves:



selves: all which they convey to their nests, for the nourishment of their young.

Such is the dread with which these Wasps impress all the insect tribes, that they instantly disappear at their approach, and leave them masters of their prey. Like the eagle or the falcon, wherever they fly, they form a kind of desert in the ambient air. In this manner they pass their summer, plundering the neighbourhood, and rearing their young: every day adds to their numbers, and from their strength, agility, and indiscriminate appetite for every sort of food, were they possessed of the longevity of bees, they would soon swarm on the face of nature, and become one of the greatest pests of mankind; but providentially their lives are apportioned to their mischief, their existence being limited to a single season.

During the continuance of the summer heats, Wasps are voracious and enterprising; but as the sun withdraws his genial warmth, their courage and activity gradually forsake them. In proportion as the cold increases, they become more domestic; seldom quit their nests; make but short excursions; and, after fluttering about in the noon-tide heats, return to their habitations quite chilled and enfeebled. As their calamities thicken, new passions begin to operate: their care for posterity is discontinued; and as the parents are no longer able to supply their growing progeny with food, they barbarously sacrifice them to the necessity of the times. Thus all the useless hands are destroyed: the young worms, which, but a short space before, they fed and protected with so much assiduity, they now cruelly butcher, and drag from their cells.

The cold increasing, and these insects no longer finding sufficient warmth in their cells, which become odious to them, they fly to the corners of houses, where they may enjoy an artificial heat. But the winter still continuing insupportable, before the commencement of the new year they wither and die; the working Wasps first, the males soon following, and many of the females suffering in the general calamity. In every nest, however, a few females outlive the winter; and, having been impregnated by the males during the preceding season, they begin in the spring to lay their eggs in a little hole of their own contriving: this bundle of eggs, which is clustered together like grapes, soon produces two worms, which the female takes proper precautions to defend and supply; and these, when hatched, soon yield assistance to the female, who is employed in hatching two more; these also gathering strength, extricate themselves from the surrounding web, and become likewise assistants to their parent. Fifteen days afterwards, two more make their appearance: and thus does the community daily increase; while the female lays in every cell, first a male, and then a female. In a short time, these become breeders in their turn; till, from a single female, ten thousand Wasps are frequently produced before the month of June. After the female has thus produced her progeny, which are distributed in different districts, they assemble from all quarters about the middle of summer, and provide for themselves the large and commodious habitations already described.

Such is the history of the social Wasp, or that species which lives in communities. But as among bees, so among these insects, there are various tribes that live in solitude. These lay their eggs

in a hole: they provide for that purpose, and the parent dies long before the birth of its offspring. In the chief species of the solitary Wasp, the insect is smaller than the working Wasp of the social kind. The filament, by which the corselet is joined to the body, is longer, and more distinctly seen; and the whole colour is blacker than in the ordinary kinds. But the manners of this extraordinary insect, rather than its figure, claim our principal attention.

This kind of Wasp is most diligently employed from the end of May to the beginning of July. The whole purpose of its life seems to be that of contriving and fitting up a commodious apartment for its young, which is not to succeed it till the return of spring. For this end it is employed, with unceasing assiduity, in boring a hole into the finest mould, some inches deep, but not much wider than the diameter of its own body; and this is only a gallery leading to a larger apartment destined for the lodgment of its offspring. As it always chuses a gravelly soil to work in, and where the earth is of consequence extremely hard, the digging and hollowing this apartment is an enterprize of no small labour. To accomplish its operations, this insect is furnished with two teeth, which are strong and firm, but not sufficiently hard to penetrate the substances through which it is resolved to make its way: in order, therefore, to soften that earth it cannot pierce, it is possessed of a gummy liquor, which it emits on the spot, thereby rendering it more easily separable from the rest, and the whole becoming a kind of soft paste, is gradually removed to the mouth of its habitation.

The animal's supply of liquor, however, being soon exhausted in these operations, it imbibes water either from some neighbouring flower or stream, in order to supply the deficiency of its natural fluid. At length, after much toil, a hole some inches deep is formed, with a large cavity at the bottom; and to which no other hostile insect would venture to make its way, from the length and straitness of the defile through which it would be obliged to pass. In this cavity the solitary Wasp lays its egg which is destined to continue the species: there the nascent animal remains upwards of nine months, unattended and immured; at first appearance, one of the most defenceless insects in the creation; but, when accurately investigated, presenting new wonders, no other creature of the kind having such a luxurious provision, or such confirmed security.

No sooner has the parent Wasp deposited her egg at the bottom of the hole, than she turns her care to furnish a supply of provisions, which the young insect may readily find immediately on being hatched. To this end, she procures a number of little green worms, generally from eight to twelve; and these are to serve the young Wasp for food the instant it awakens into life. When this supply is regularly arranged and laid in, the old one, with the same assiduity she before worked out her hole, now closes the mouth of the passage; and thus leaving her young one immured in perfect security, and copiously supplied with animal food, she soon after expires, having performed every thing in her power to continue the kind.

When the young Wasp first quits the egg, it is so small as to be scarcely visible; and is immured among a number of insects larger than itself, orderly arranged round it, which, however, can excite



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cite in it no degree of apprehension. Whether the parent, when she laid in the insect provision, contrived to disable the worms from resistance, or whether they were originally incapable of any, has not yet been ascertained: certain it is, that the young Wasp feeds on the living spoil without any controul; his prey lies within his reach, and he devours one after the other as the calls of appetite incite. The life of the young animal is therefore spent in the most luxurious manner, till it's whole stock of worms is exhausted; and then the time of it's transformation begins to approach, when spinning a silken web, it continues fixed in it's cell till the increasing heat of the sun prompts it to attempt it's enlargement, and perform the duties it owes to posterity.

Though the European Wasps are sufficiently mischievous, yet they may be regarded as harmless insects when compared with those of the tropical climates, where all the insect tribes are not only numerous, but large, voracious, and destructive. Those of the West Indies are thicker, and twice as long as common bees. They are of a grey colour, striped with yellow, and armed with very dangerous stings. They form their cells after the manner of a honeycomb, in which their young are hatched and bred. They generally suspend their nests by threads, composed of the same substance with their cells, to the branches of trees, and the eaves of houses; and are seen every where in great numbers, descending like fruit, and as large as a man's head. The inside is divided into three round stories, full of hexagonal cells, like those of an honeycomb. In some of the West India islands, these insects are so excessively numerous, that their nests are every where suspended, sometimes at no greater distance from each other than two feet; and the inhabitants are in continual apprehension from their accidental resentment. However, it sometimes happens that no precautions avail in warding off their attacks; and the pain attending their sting is said to be more excruciating than that of a scorpion.

**WASP-FLY.** A species of Fly produced from the rat-tailed fly-worms; and nearly resembling the wasp in it's external figure. It has only two wings; and is totally destitute of a sting.

**WASP-TIPULA.** An appellation given by Reaumur to an insect properly belonging to the Tipula genus, though greatly resembling a wasp. It is produced from a worm, lodged in the mould at the bottom of the cavities of old trees, which is destitute of legs. The fly has long legs; and a mouth resembling that of the Tipula; with the remarkable double beard which covers it, and constitutes the great character of this class of insects: but then the body is thick and short, contrary to that of the Tipula kind. This, together with the breast, is variegated with black and yellow streaks, after the manner of the wasp; and it's antennæ are beautifully feathered, and bearded like those of the males of many of the gnat kind. The head is black; and the legs are yellowish. The wings are of a whitish yellow hue; and near their extremities there is a large spot of brown.

The female of this species is always much thicker than the male; by which circumstance the sexes are easily distinguished.

**WATER-ELEPHANT.** See HIPPOPOTAMUS.

**WATER-HEN.** A name by which some ornithologists express the moor-hen.

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**WATER-HOG.** An appellation given by some naturalists to the capybara. See CAPYBARA.

**WATER-OUZEL.** See OUZEL.

**WATER-RAIL.** See RAIL.

**WATER-RAT.** See RAT and MUS.

**WAX-BILL, EAST INDIAN.** This beautiful little bird, which was first described by Edwards, belongs to the genus *loxia* of Linnæus. The bill is of a moderate size; and of a fine red colour, resembling sealing-wax, from whence it receives it's name. From the angle of the mouth passes a long red spot, broad in the middle, and terminating in a point about the place of the ear; and in the centre of this spot the eye is situated. The top of the head, the upper side of the neck, the back, and the upper sides of the wings and tail, are of a dark dusky brown colour. The sides of the head beneath the red marks are whitish: the breast becomes gradually of a light ash-colour; the sides of the belly, the thighs, and coverts of the tail, both above and beneath, are also of a light brownish ash-colour; and the lower part of the breast and middle of the belly are beautifully marked with a longish red spot, which gradually loses itself in the brownish ash-colour that surrounds it.

The brown plumage of this bird is transversely marked with fine lines of a darker colour; and the toes, which stand three forwards, and one backwards, as usual in most small birds, are dusky.

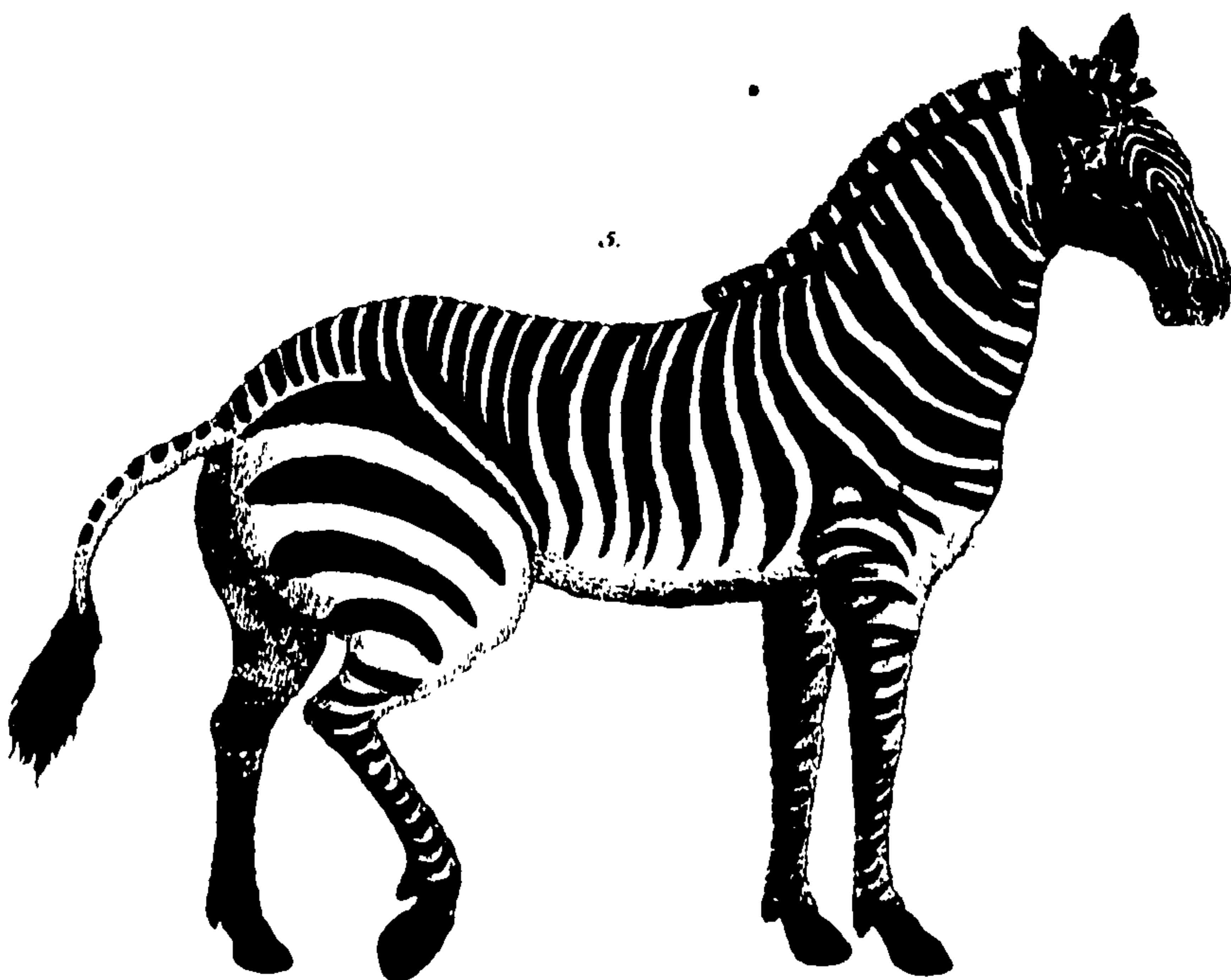
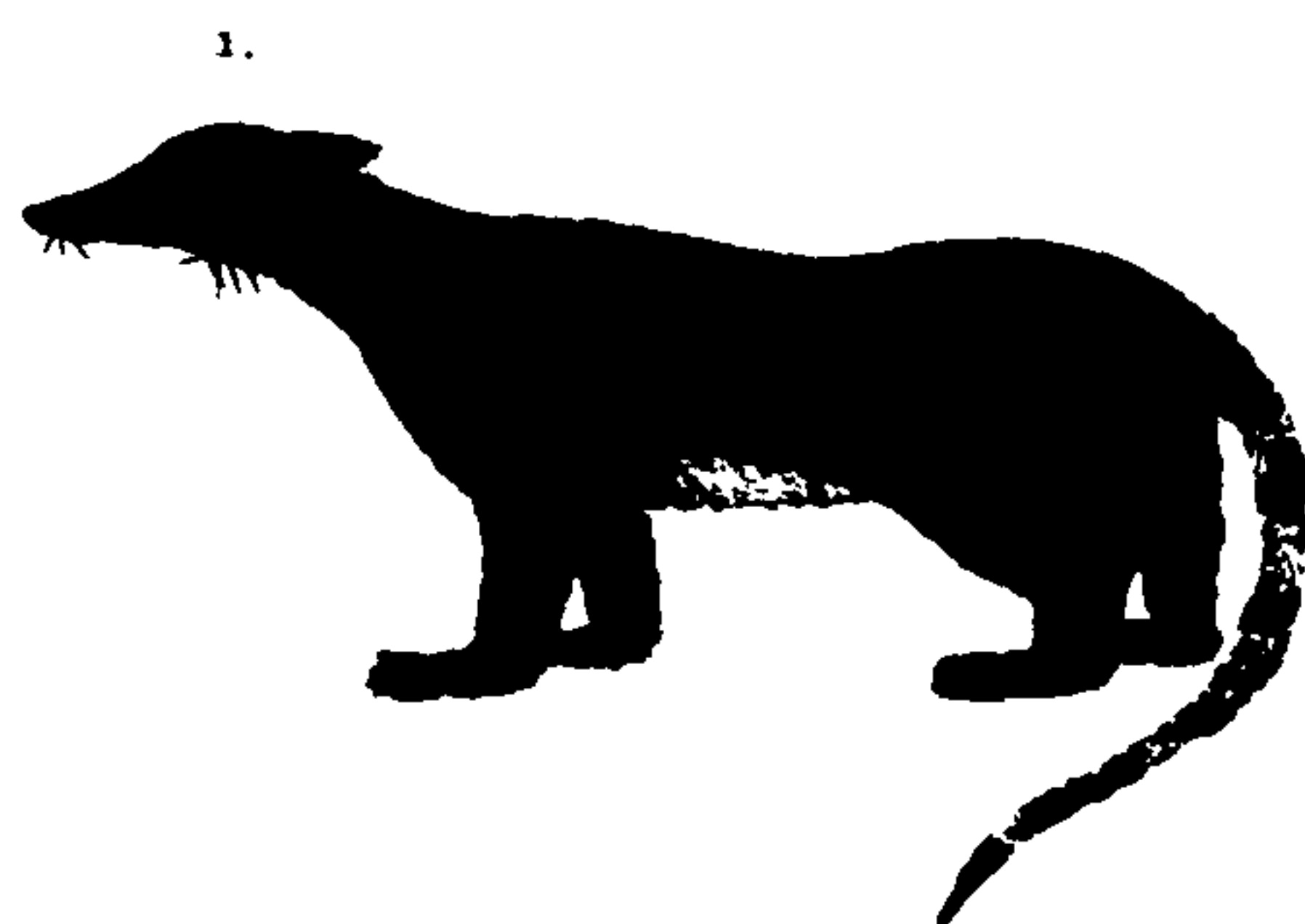
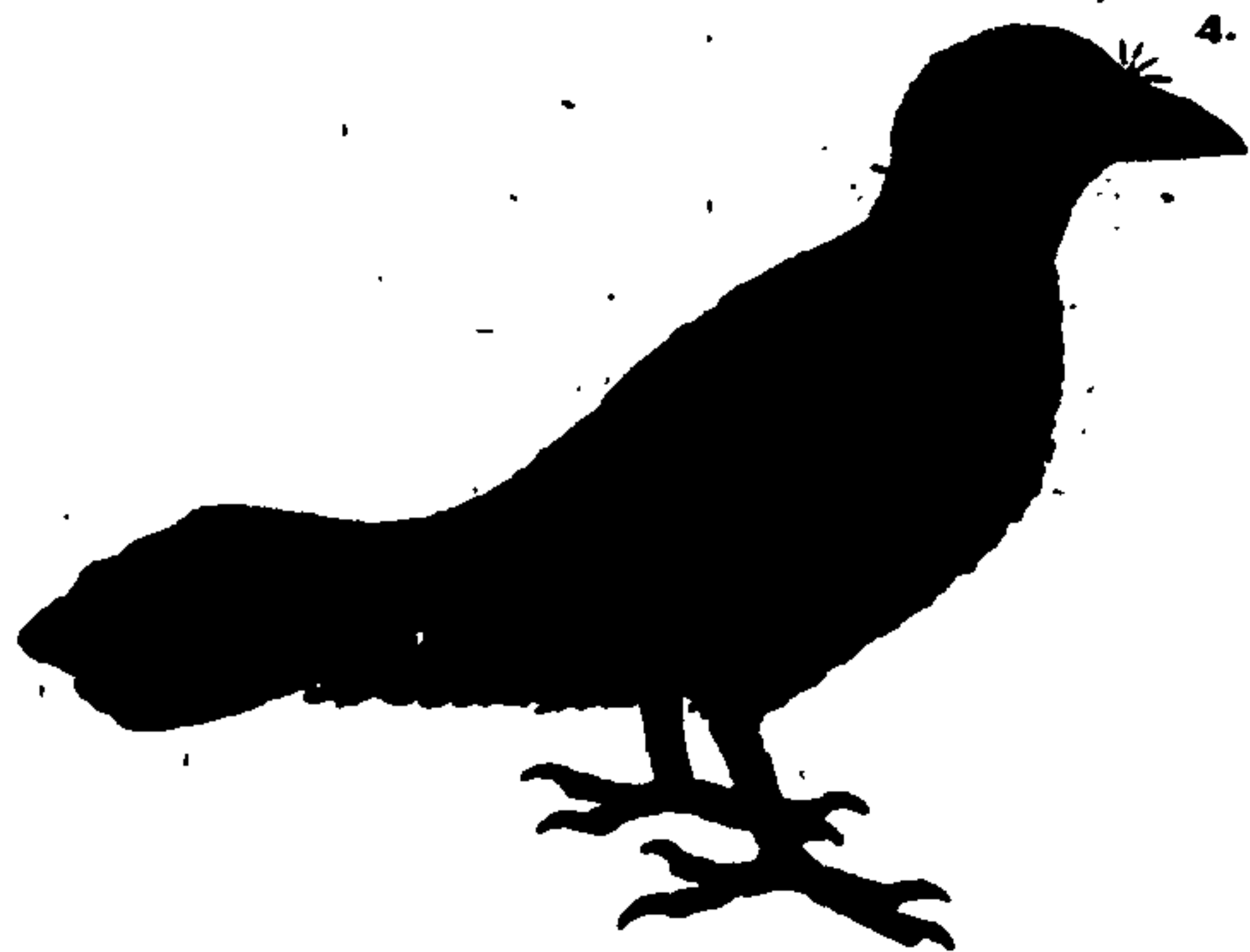
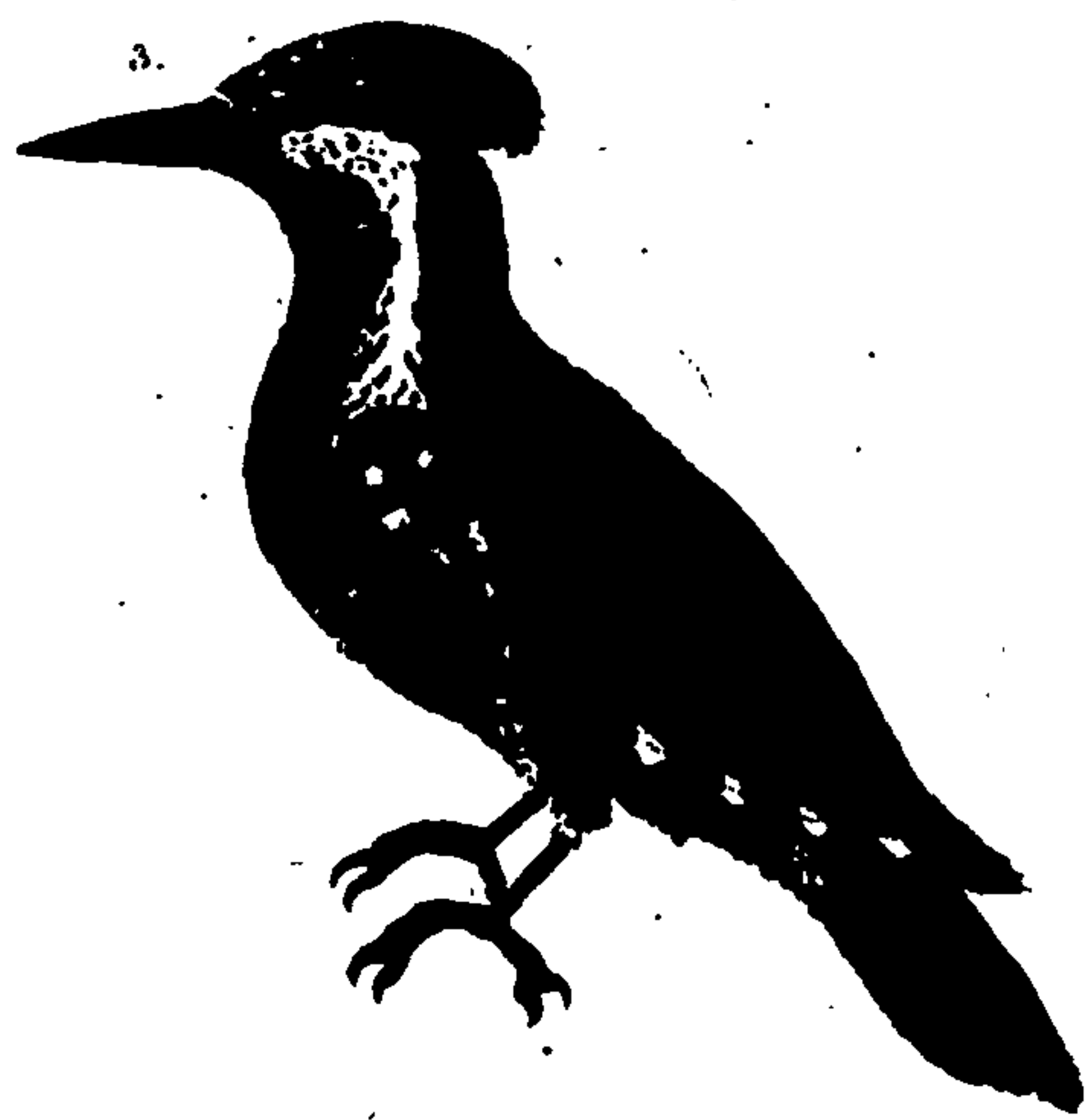
**WAX-BILL, RED-RUMPED.** This curious little bird is a native of Benguela, in Africa. The bill resembles red sealing-wax; the head and hind part of the neck are cinereous; the back and coverts of the wings are brown; the primaries are dusky; the belly and breast are of a dirty white hue; the vent is crossed with a crimson bar; the coverts of the tail are of the same colour; the tail is dusky; and the legs are dark grey.

**WAX-BILL, WHITE-TAILED.** This species is a native of the Brazil. The bill resembles those of the same name; the head and coverts of the wings are cinereous; the back is of a rich yellow hue; and the breast and belly are of the same colour, but much paler. The tail is white, except the two exterior feathers, which are black; and the legs are of a fleshy colour.

**WEASEL.** The Weasel kind are characterized by having six cutting and two canine teeth in each jaw; the nose sharp; the body slender; and five toes before, with the same number behind.

Animals of this sort may be distinguished from other carnivorous creatures by their long and slender bodies, which enable them, like worms, to insinuate themselves into very small openings in pursuit of their prey; and they are actually called vermin from their resembling worms in this particular. In the formation and disposition of their claws, they differ from all those of the cat kind, as they can neither extend nor contract them like the feline species. They are clothed with fur rather than hair; and in this respect they vary from the dog tribe. All of this kind, however, are more distinctly marked by their actions and dispositions than by their external forms: they are all cruel, cowardly, and voracious; subsisting only by theft, and principally protected by their smallness and insignificance. Having short legs, they are slow in pursuit; and obtain a support by cunning, patience, and assiduity. Their prey being precarious, they often subsist a long time without food: but, when successful, they destroy all around them before they begin to feed; and suck  
the





1. BRAZILIAN WEASEL 2. WOLVERENE 3. INDIAN SPOTTED WOODPECKER 4. YELLOW SPOTTED WOODPECKER.

5. ZEBRA 6. ZEBRA



the blood of every animal before they regale on it's flesh.

Under this genus Pennant enumerates the common Weasel, the stoat, the American fitchet, the fitchet, the Sarmatian Weasel, the Siberian Weasel, the ferret, the martin, the pine Weasel, the sable, the fisher, the Madagascar Weasel, the Peka Weasel, the vison, the white-cheeked Weasel, the grison, the Guinea Weasel, the Guiana Weasel, the woolly Weasel, the ichneumon, the four-toed Weasel, the yellow Weasel, the Mexican Weasel, the Brazilian Weasel, the stifling Weasel, the striated Weasel, the skunk, the zorilla, the rascal, the blotched Weasel, the civet, the zibet, the genet, and the fossane.

Several of these species are described under their respective appellations; and the manners and qualities of the rest may easily be collected from the subsequent description of the common Weasel, and one or two more species, which properly serves as a model for the rest.

**WEASEL, COMMON;** the *Mustela Nivalis* of Linnæus. This is the smallest of the numerous tribe to which it belongs; the length of the head and body not exceeding six or seven inches. The tail is about two inches and a half long, and terminates in a point. The length of this animal, however, appears very great, when compared with it's height, which does not exceed one inch and a half. The eyes are small and black; and the ears are large, having their lower parts doubled in. The head, tail, legs, and feet, together with the upper part of the body, are of a very pale rawny brown colour; the lower part of the body, from the chin to the tail, is white; but on each jaw there is a spot of brown, beneath the corners of the mouth. It is furnished with whiskers; and has thirty-two teeth, which are two more than any of the feline kind have, and they all seem well adapted for chewing and tearing.

The Weasel, though a very diminutive animal, is nevertheless a formidable enemy to many greatly it's superiors in size. Like the rest of it's kind, it is very destructive to rabbits, poultry, and young birds; and it is also a great devourer of eggs. It is held in different estimation in distinct parts of the world. In such places where lambs are bred, it is a very dangerous neighbour; but where agriculture constitutes the principal employment of the natives, it is considered as a friendly animal that destroys much of the vermin which preys on corn.

The Weasel frequents hovels, barns, stables, and granaries; where, in order to compensate for it's depredations among the poultry, it speedily clears it's haunts from rats and mice, being a greater enemy to them than even the cat itself.

This animal is absolutely untameable and untractable. When kept in a cage, either for amusement or inspection, it will not touch it's food while any person continues within it's view. It appears continually agitated; and is so terrified at the sight of mankind, that, if not permitted to hide itself from their eye, it will even expire. It's cage should therefore be furnished with a sufficient quantity of wool or hay, under which it may conceal itself, as well as whatever food it is possessed of. It passes three parts of the day in sleep; and employs the night in exercise and feeding.

In a state of nature, this animal steals from it's hole towards the evening, and prowls about farm-yards in search of prey. If it enters any place

where poultry are kept, it never attacks the old cocks and hens, but aims immediately at the young ones. It does not devour it's prey on the spot; but, after killing it, conveys it to it's young or it's retreat.

This creature is remarkably active; and, in a confined situation, hardly any animal can escape from it. It runs up the sides of walls with such facility and expedition, that few places are secure from it's approaches; and it's body is so very slender, that there is scarcely a hole impervious to it. During the winter, it chiefly confines itself to barns and farm-yards: at this season it wars against rats and mice; and, creeping also into pigeon-holes, destroys the young. In summer, it ventures farther abroad, and particularly into such places where rats have preceded it: it is chiefly found in low grounds, by the sides of waters, and near mills; and it's young are frequently lodged in the hollow of some tree.

The female makes an excellent bed for her little ones, of which she generally brings forth four or five at a time. Like the dog kind, all these animals produce their young blind; but they soon acquire sufficient strength to accompany their dam in her excursions, and become accomplices in her petty depredations.

The Weasel, as well as all those of it's kind, has a very strong, offensive smell, proceeding from the foetid glands beneath it's tail. It smells stronger in summer than in winter; and still more abominably when irritated, or pursued. It utters neither voice nor cry, except when hurt; and then it expresses it's pain by a disagreeable kind of squeak.

**WEASEL, GUINEA;** the *Tayra*, ou le *Galera* of Buffon. This species is about the size of a rabbit; of a dusky colour; and it's form resembles that of a rat. The upper jaw is much longer than the lower; and the eyes are placed at about an equal distance between it's ears and the tip of it's nose. The ears resemble the human; and the tongue is remarkably rough.

This creature is very common about the negro settlements. It burrows like a rabbit; and is so fierce, that it will fly at either man or beast when provoked.

**WEASEL, STIFLING.** This disagreeable animal has a short, slender nose; short ears and legs; and a body covered with full black hair. The tail is long, and of a black and white colour. The length of the whole animal, from the nose to the insertion of the tail, is about eighteen inches. It is a native of Mexico, and probably some other parts of America.

This creature, together with the Conepate of Buffon, the skunk, the zorilla, and some others, are all remarkable for the pestiferous, stinking, and suffocating fumes, they emit from behind, when attacked or terrified. It is indeed their sole means of defence. Some turn their tails to their enemies, and emit a horrid effluvia; and others eliminate their urine to a very considerable distance. The terrible stench immediately stops the pursuers. If any of this liquid happens to enter the eyes, it almost occasions blindness; and if it chances to alight on the cloaths, the smell continues for several days, and no washing can remove it: they must even be buried in fresh earth, in order to be sweetened.

Dogs which have been accustomed to hunt this animal generally succeed in destroying it; but



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others run from it as soon as they perceive it's smell; and even the former are obliged to relieve themselves, by often thrusting their noses into the ground. Professor Kalm informs us that he was in danger of being suffocated by the stench of one of these Weasels that was pursued into a house where he slept; and that the cattle were so much affected by it, as to bellow through pain. The smell of another, which was killed by a woman in a cellar, so overcame her, that she kept her bed for several days afterwards. Nevertheless, the Americans eat it's flesh, which they reckon delicious food; but they are careful to deprive it of those glands which are so abominably offensive.

The Virginian Weasel differs little from the rest of the kind, except that it is capable of being tamed; and then it will even follow it's master. It never emits it's stench but when either injured or frightened.

In other respects, the squash, the conepate, the skunk, the zorilla, and the fizzler, do not materially differ. All the tribe is mischievous and disgusting: nevertheless, the fur of some species is excessively valued; and the civet is no less esteemed for it's perfume.

**WEASEL COOT.** A name by which some ornithologists express the *Mergus Minutus* of Linnæus; called also the red-headed snew.

**WEEK FISH.** An appellation given by some ichthyologists to a very delicate East Indian fish; termed Wit-visch by the Dutch.

**WEEVER.** An English appellation for the fish which Willughby and some others denominate *Draco Marinus*. Under this title Pennant describes the following species.

**WEEVER, COMMON;** the *Trachinus Draco* of Linnæus. This fish appears to have been well known to the ancients; who remark, that the wounds inflicted by it's spines are extremely painful, attended with a violent burning, and most pungent shooting; and sometimes with an inflammation.

It is the general opinion that these symptoms arise from something more than the small wound this fish is capable of inflicting; and that there is a venom infused into it, at least such as proceeds from the spines that compose the first dorsal fin, which is dyed with black, and has a most suspicious aspect. Some persons have used sea-sand, rubbed on the place affected, as a specific against the wounds of the Weever; while others have applied stale warm urine with success.

This fish buries itself in the sand, leaving only it's nose exposed; and, if trod on, immediately strikes with great force. But, notwithstanding this noxious quality of the spines, the flesh is excellent food.

The Common Weever grows to the length of twelve inches; but is frequently found much shorter. The irides are yellow; the under jaw is longer than the upper, and slopes very much towards the belly; and the teeth are small. The back is straight; the sides are flat; the belly is prominent; the lateral line is straight; and the covers of the gills are armed with a very strong spine. The first dorsal fin consists of five very strong spines, which, together with the intervening, are tinged with black; the second consists of several soft rays, commences just at the end of the first, and extends nearly to the tail. The pectoral fins are broad and angular; and the ventral fins are small. The vent is placed remarkably forward;

## W H A

the anal fin, which extends within a small distance of the tail, is slightly hollowed in the middle; and the sides are longitudinally marked with two or three dirty yellow lines, and transversely by numbers of small ones.

**WEEVER, GREAT.** This species, which appears to be the *Draco Major* seu *Araneus* of Salvian, and inhabits the sea near Scarborough, is sometimes upwards of a foot in length. The head is flat; the eyes are large; the edges of the jaws are rough, with minute teeth; the head is covered with small tubercles; the cheeks and gills are overspread with small scales; and a sharp spine rises on the gills. The first dorsal fin is black, with five spines; the second reaches almost to the tail: the pectoral fins contain three branchiostegæ rays; the ventral six; and the anal fin extends opposite to the second dorsal one. The tail is large, triangular, and even at the extremity; and the scales run in oblique lines from the back to the belly, with a division between each row.

**WEEVIL.** A small insect, extremely noxious, and destructive to magazines of corn. It is scarcely larger than a louse; and appears to be of the scarabæus or beetle kind, having two jointed, tufted horns; and a trunk, or piercer, projecting from the fore-part of it's head. At the extremity of this trunk, which is very long in proportion to it's body, there is a sort of forceps, with which it gnaws it's way into the heart of the grain, either for the sake of feeding on it, or in order to deposit it's eggs.

If these creatures be confined in a glass tube into which are put a few grains of wheat, their copulation and manner of generation may be discovered. The female perforates one grain, and therein deposits a single egg, or two at the utmost; and in this manner she stocks five or six grains, for several days successively. Each of these eggs, which is very little bigger than a grain of sand, produces a kind of white maggot in about a week; and this, in the space of a fortnight, turns to an aurelia, from which the perfect Weevil is produced.

This destructive creature is in it's turn subject to be destroyed by mites, while in it's egg or aurelia state.

**WEPOLON.** The Ceylonesse appellation for an East Indian serpent; having a very long and slender body, in some measure resembling a piece of cane.

**WHALE.** In the Linnæan system, the seventh order in the class of mammalia. The characters are these: animals of this order have breathing apertures on the head, pectoral fins, the tail placed horizontally, and no claws.

This order includes four genera; the monodon, or sea-unicorn; balæna, or Whale; physeter; and delphinus, comprehending the dolphin, porpoise, and grampus.

The genus of the balæna, or Whale, is distinguished by having horny laminæ in the upper jaw, instead of teeth; and a double fistula, or pipe, in the head. It includes four species.

**WHALE, COMMON, OR GREENLAND;** the *Balæna Mysticetus* of Linnæus. This species is the largest animal of which we have as yet received any authentic information, being frequently found in the northern seas ninety feet in length: but, some centuries ago, Whales were much larger, when the captures were less frequent, and the fish had time to grow. Such is their bulk within the Arctic circle: but within the bounds of the torrid zone,



zone, where they remain unmolested, they are still discovered one hundred and sixty feet in length.

The Whale is a large, heavy animal; the head alone constituting a third part of its bulk. The under lip is much broader than the upper; the tongue is composed of a soft spongy fat, capable of yielding five or six barrels of blubber; but the gullet is very small for so large a fish, not exceeding four inches in width. There are two orifices in the middle of the head, through which it spouts water to a vast distance, and with a great noise, especially when disturbed or wounded. The eyes, which are not superior in size to those of an ox, are placed towards the back of the head; by which means they are capable of discerning objects both before and behind. There is no dorsal fin; but on the sides, beneath each eye, there are two large ones. The tail is broad and semilunar; and, when the fish rests on one side, its blow is amazingly powerful.

The colour of the Common Whale is not uniform; the back of some being red, and the belly generally white. Some are black, others mottled, and some quite white; according to Marten, who informs us that their colours in the water are extremely beautiful, and their skins very smooth and slippery. The substance known by the appellation of Whale-bone adheres to the upper jaw of the animal; and is composed of thin parallel laminae, some of the longest being four yards in extent. Of these there are commonly three hundred and fifty on each side; and, in old fish, a great many more: about five hundred are of a proper length for use; but the rest are too short to be serviceable. They are surrounded with long strong hair, not only to hinder their injuring the tongue, but as strainers, to prevent the return of their food when they discharge the water out of their mouths. On account of these hairs, Aristotle gave this species the appellation of the Bearded Whale, which he informs us has hairs in its mouth instead of teeth: and Pliny describes the same under the name of Musculus. From this and other circumstances we may infer, that though the ancients were acquainted with these animals, they were ignorant of many of their qualities, and of all their uses, as well as the manner of catching them. Aldrovandus, indeed, describes from Oppian, what he has mistaken for Whale-fishing: he seems to have been led into an error by the word Ketos, which is used not only to express Whales in general, but also any great fish. The poet, in the passage alluded to, undoubtedly meant the shark; and shews the way of taking it at present; namely, by a strong hook baited with flesh.

Though an animal of such magnitude, the Whale swims with vast swiftness, and generally against the wind. It uses its tail only to help itself forward in the water: this serves as an oar to push it along; its enormous bulk cuts through the ocean with amazing force and celerity; and its fins are principally used for turning in the water, and giving a direction to the velocity impressed by the tail.

As Whales resemble quadrupeds in their conformation, so they likewise strongly resemble them in some of their appetites and manners. The female joins with the male, as it is assisted *more humano*, and once every two years feels the accesses of desire.

The fidelity of these animals to each other exceeds whatever is related of even the constancy of

birds. Anderson informs us, that some fishermen having struck one of two Whales in company, a male and a female, the wounded fish made a long and terrible resistance; and, with one stroke of its tail, overturned a boat with three men in it, and sent them all to the bottom. The other still attended its companion, affording it all the assistance in its power, till at last the mangled fish sunk under the number of its wounds; while its faithful associate, as if disdaining to survive the loss, with dreadful bellowing and lamentation stretched itself on the dead fish, and in this situation shared its fate.

The period of the female's gestation is about nine or ten months: she is then fatter than usual, particularly when near the time of parturition. It is said that the embryo, when first perceptible, is about seventeen inches long, and of a white colour; but the cub, when excluded, is black, and about ten feet long. She generally produces one, and never above two young. When she suckles them, she throws herself on one side on the surface of the sea, and they attach themselves to her teats. Her breasts are generally hid within her belly; but she can produce them at pleasure, so as to project forward a foot and a half, or even two feet. The teats resemble those of a cow. In some, the breasts are white; in others, speckled; but in all, filled with a large quantity of milk resembling that of land animals.

Nothing can exceed the tenderness of the female for her offspring: she carries it with her wherever she goes; keeps it supported between her fins when pursued; even when wounded, she still clasps her young one; and, as often as she plunges to avoid danger, takes it with her to the bottom; but rises sooner than usual, in order to give it breath again.

The young of the Whale continue one year at the breast; during which time they are by sailors called short heads. They are then extremely fat, and yield above fifty barrels of blubber. The mother is at the same time equally lean and emaciated. At the age of two years they are called stunts, as they do not seem to grow so rapidly after quitting the breast, and then scarcely yield above twenty or twenty-four barrels of blubber. From that time forward they receive the general appellation of skull-fish; and their age is wholly unknown.

Every species of the Whale propagates only with its own kind, so that each is preserved distinct: however, they are generally seen in shoals, of different kinds together; and they perform their migrations from one ocean to another in large companies. They are gregarious animals; which implies their want of mutual defence against the attacks of smaller, but more powerful fishes. It is astonishing, therefore, how a shoal of these enormous animals find subsistence together, when it would seem that the supplying even one with food required greater plenty than the ocean could furnish. But our wonder is increased, when we not only see them herding together, but usually find them in better condition than any other animals of whatever element. We likewise evidently discover, that they cannot swallow large fishes, as their throats are so very narrow, that any animal larger than a herring could not find admission. How then do they subsist, and grow so fat? Small insects, seen floating in the seas where they abound, and to which Linnæus gives the appellation of Medusæ,



Medusæ, are sufficient for this supply. These insects, which are black, and each about the size of a small bean, are sometimes seen in large clusters on the surface of the water: they are of a round figure; but furnished with wings, which are so extremely tender, that it is scarcely possible to touch without breaking them; and they are rather adapted for swimming than flying. The little animals themselves, which, in the Icelandic language, are called the Walfischoas, or Whales Providers, possess the taste of raw muscles, and the smell of burnt sugar. These the Whale is observed to draw up in great numbers with its enormous jaws; and to bruise between its barbs, which are always found with several of these insects sticking round them.

Such is the simple food of the common Whale: it pursues no other prey; leads an inoffensive life in its own element; and is innoxious in proportion to its powers to do mischief. There seems to be an analogy between its manners and those of the elephant. They are both the strongest and the largest animals in their respective elements; neither of them offer any injury; but are terrible when provoked to resentment.

The Whale being a harmless animal, it is not surprising that it should have many enemies, ever ready to avail themselves of its indolence and inaptitude for contest. A small creature of the testaceous kind, called the Whale-louse, adheres to its body, and frequently insinuates itself under the fins; still retaining its hold, and feasting on the fat, in spite of all the efforts of that most powerful animal to disengage it.

But the xiphias, or sword-fish, is the most terrible enemy the Whale has to contend with. 'At the sight of this little animal,' says Anderson, 'the Whale seems agitated in an extraordinary manner; leaping from the water as if with affright: wherever it appears, the Whale perceives it at a distance, and flies from it in the opposite direction. I have been myself,' continues he, 'a spectator of their terrible encounter. The Whale has no instrument of defence except its tail; with that it endeavours to strike the enemy; and a single blow taking place, would effectually destroy its adversary: but the sword-fish is as active as the other is strong, and easily eludes the stroke; then bounding into the air, it falls upon its great subjacent enemy, and endeavours, not to pierce with its pointed beak, but to cut with its toothed edges. The sea all around is soon dyed with blood, proceeding from the wounds of the Whale; while the enormous animal vainly endeavours to reach its invader, and strikes with its tail against the surface of the water, making a report at each blow louder than the noise of a cannon.'

There is still another, and more powerful enemy, called by the fishermen of New England the Killer. This is itself a cetaceous animal, armed with strong and very powerful teeth. A number of these fish are said to surround the Whale: some attack it with their teeth behind; others attempt it before; till at last the invader is overcome; and its tongue, the only part they devour, is eagerly seized by the invaders. These creatures, we are told, are of such vast strength, that one of them singly stopped a dead Whale, which several boats were towing along, and dragged it to the bottom.

But man is by far the most formidable enemy of these enormous fishes: he alone is supposed to

destroy more in one year than the rest in an age, and has actually thinned their numbers in that part of the world where they are chiefly sought for. The great resort of these animals was found to be on the inhospitable shores of Spitzbergen; where the distance of the voyage, the coldness of the climate, the terrors of the icy sea, and, still more, their own formidable bulk, might have been expected to protect them from human injury. However, all these circumstances united proved but slight barriers against the arts, the intrepidity, and the necessities of man. The Europeans, soon after the improvement of navigation, found their way into those seas; and, as early as the beginning of the fourteenth century, the Biscayneers were in possession of a very considerable trade to the coasts of Greenland. The Dutch and English followed them thither, and soon wrested that branch of commerce from their hands. The English commenced the business about the seventeenth century; and the town of Hull had the honour of first attempting that lucrative branch of trade. But at present, though the spirit of commerce is not abated, the fishery seems to be on the decline, as the quantity of Whales are greatly reduced by the constant capture for such a vast period of time. On account of the scarcity of Whales, fishermen apply themselves to the taking of seals; yet, as these animals are extremely timorous, it is probable they will soon be driven from those shores where they are exposed to such frequent molestation.

The art of catching Whales, like most others, is much improved by time; and differs in many respects from that practised by the Biscayneers, when they first frequented the icy seas. But as the description of their method is the least complicated, and generally known, to it we shall adhere.

In favourable seasons, the Biscayneers fitted out thirty ships, of two hundred and fifty tons each, for this navigation; with fifty choice men a-piece, and some boys. These were furnished with six months provision; and each ship had its respective boats, which were to be applied to service as soon as they arrived at the scene of action.

When they reach those latitudes where the Whales are expected to pass to the southward, they always keep their sails set; and a sailor is placed at the mast-head, to give information whenever a Whale appears. As soon as he discovers the wished-for prize, the whole crew instantly prepare themselves for action; they man their boats, and direct their course to the place where the Whale is seen. The harpooner, who is to strike the fish, stands at the prow of the boat, with a harpoon or javelin in his hand, five or six feet long, pointed with steel like the barb of an arrow, and of a triangular shape. As this person's office requires the greatest dexterity, so it also exposes him to the most imminent danger: the Whale sometimes overturns the boat with a blow of his tail; and, at others, pushes against it with great fury. In general, however, the animal seems to repose on the surface of the water; while the boat approaching, the harpooner stands aloft; and his harpoon being fixed to a cord several hundred fathoms in length, he darts it into the creature, and then rows away as fast as possible. It is some time before the Whale seems to feel the blow; the instrument has usually not pierced deeper than the fat, and that being callous, the creature continues for a while motionless; but rousing from his lethargy



thrust as the shaft continues to force its way deeper and deeper into the muscular flesh, he flies off with amazing rapidity. In the mean time the harpoon sticks in his side; while the rope, which is coiled up in the boat, and runs on a swivel, lengthens as the Whale recedes, but still points out the part of the deep to which he has retreated. This cord is always wound up with great care; for such is the rapidity with which it runs off, that, were it in the least checked, as it yields with the animal, it would infallibly overset the boat. It also sometimes happens, that the rapidity with which it runs over the swivel at the edge of the boat, heats it; and it would certainly take fire, did not some person continually stand with a wet mop in his hand, and cool the swivel as the cord runs. The Whale having dived to a considerable depth, remains there sometimes for the space of half an hour, with the harpoon in his body, and then rises to take breath; but no sooner does he again appear, than the harpooners are all ready to receive him; and, every time the animal emerges, repeat their blows. The ship follows in full sail, never losing sight of the boats, but affording them assistance when necessary; while the whole ocean seems dyed with blood. Thus they renew their attacks, till the Whale begins to be quite enfeebled and spent; then they plunge a kind of long spears into various parts of its body, and the enormous creature expires. When dead, in order to prevent it from sinking, they affix it to the side of the boat by means of a strong iron chain; and either cut it up into pieces, and carry it home in that condition, or extract the oil from the blubber on board the ship.

Such is the manner in which Whales were originally taken; though length of time and experience have introduced several improvements into this as well as other arts. But as a detail of this kind belongs rather to a history of commerce than of nature, suffice it to observe, that several parts of this animal, and indeed all but the intestines and bones, are turned to very good account; not only the oil, but also the grease from which it is separated. The flesh of this creature is also a dainty to some nations; and even the French sailors sometimes dress and use it as their ordinary diet at sea. It is said by the English and Dutch mariners to be hard and ill-flavoured; while the French assert the contrary. The savages of Greenland, as well as those near the south pole, are excessively fond of it; and eat the flesh, and drink the oil, as a first-rate delicacy. The discovery of a dead Whale on their coasts is considered among the most fortunate circumstances of their wretched lives: they fix their habitations near it; and seldom remove while any part remains besides the bones.

**WHALE, PIKE-HEADED;** the *Balæna Boops* of Linnæus. The head of this species is of an oblong form, sloping down, and gradually narrowing to the nose; about six feet and a half from the extremity of which there are two spout-holes, separated by a thin division. The eyes are small; the pectoral fins are about five feet long, and eighteen inches broad; there is a large horny protuberance on the back, about eight feet and a half from the tail; and the tail itself is about nine feet and a half broad. The belly is corrugated, and formed into longitudinal folds; and the skin, which is remarkably bright and smooth, is black on the back, and white on the belly.

This animal receives its name from the shape of its nose, which is narrower and sharper pointed than that of other Whales.

The specimen from which this description is taken, was forty-six feet long; and its greatest circumference twenty feet. It was caught on the coast of Scotland.

**WHALE, ROUND-LIPPED;** the *Balæna Musculus* of Linnæus. The lower lip of this species is broader than the upper, and of a semicircular form. One of them, taken near Abercorn Castle, in Scotland, was seventy-eight feet long, and thirty-five in circumference. The mouth was extremely wide; the tongue was fifteen feet and a half long; and there were two spout-holes, of a pyramidal form, on the forehead. The eyes were thirteen feet from the extremity of the nose; the length of the pectoral fins was ten feet; and the height of the dorsal fin three feet. The dorsal fin was situated near the tail, which was eighteen feet in breadth; and the belly was full of folds.

This species is said to feed on herrings.

**WHALE, BEAKED, BOTTLE-HEAD, or NEBBE-HAUL.** This species is about fourteen feet long, and seven and a half in circumference. The body is very thick; the forehead is high; the nose is depressed, and equally thick through its whole length, not unlike the beak of a bird; the mouth is destitute of teeth; the eyes are large, but the lids small; the spout-hole, which is situated on the top of the head, is semilunar, the angles pointing towards the tail; the pectoral fins are seventeen inches long; the dorsal fin, which is placed nearer the tail than the head, is one foot long; and the breadth of the tail is upwards of three feet.

These fishes sometimes grow to the length of twenty feet. They make but little noise in blowing; and are very tame, approaching close to ships, and accompanying them a considerable way.

**WHALE, FIN-BACK;** the *Balæna Physalus* of Linnæus. This species, called also the Fin-fish, is distinguished from the common Whale by a fin on its back, placed very low, and near the tail. Its length is equal to that of the largest species; but it is much more slender. It is furnished with whale-bone in the upper jaw, mixed with short and knotty, and of little value; and the blubber on the body is very inconsiderable. It is so extremely fierce and active, that the capture of it is dangerous, and the fishermen are said to have neglected it; however, the Greenlanders esteem it on account of its flesh. Its lips, which are brown, resemble twisted ropes: the spout-hole appears as if split on the top of its head; and through this it blows water with greater violence, and to a greater height, than the common Whale.

Fishermen dislike the sight of this animal, as it is invariably observed to drive all others of the genus from its vicinity.

**WHALE, SPERMACETI.** See CACHALOT, PHYETER, and SPERMACETI.

**WHAME.** A provincial appellation for the burrel-fly, or wriggle-tail; a species of fly very troublesome to horses.

**WHEAT BIRD.** A name given by the inhabitants of Virginia to a species of bird which makes its appearance in that province about the time when the wheat is ripe, and soon after disappears. Before that grain was introduced into Virginia, this bird was unknown.

**WHEAT-EAR;** the *Motacilla Cenanthe* of Linnæus.



**Linnaeus.** This bird, called also the White-tail, and the Fallow-finch, is somewhat larger than the common sparrow. The head and back are of a greyish colour, with some admixture of redness; and the rump is white, whence the bird has received the appellation of the white-tail: but this is not always the case; for the rump is sometimes of the same colour with the rest of the back. Over each eye there is a white line; and beneath it a broad black stroke, passing across each eye to the hind part of the head. The under side of the body is white, tinged with yellow; on the neck it inclines to red; and the quill-feathers are black, edged with reddish brown. The colours of the female are more dull: she wants the black stroke across the eye; and the bar of white on her tail is narrower.

These birds feed on beetles, and other insects; and build in the deserted burrows of rabbits. They are very plentiful in Sussex, and some other English counties, after harvest-time, when they are extremely fat, and much esteemed at table. They seem to thrive best in rainy seasons, because they then find a greater plenty of food than during dry ones.

At Eastbourne, in Sussex, they particularly abound, on account of a small fly which frequents the adjacent hills, for the sake of the wild thyme with which they are covered; and are taken in great numbers by means of horse-hair snares placed under long turfs, into which they are easily driven, to avoid the human species. The number annually caught there has frequently amounted to upwards of eighteen hundred dozen; and yet the flocks that appear the succeeding year do not seem to be diminished. They lay from six to eight eggs, of a light blue colour.

Wheat-Ears begin to visit us about the middle of March, and continue migrating into this country till the beginning of May. The females arrive about a fortnight before the males. They disappear in September, at least from the northern parts of the kingdom; but many of them continue in Hampshire the whole winter.

**WHEEL ANIMAL.** A genus of animalcules, furnished with an apparatus of arms for seizing their prey. This apparatus has been supposed, by microscopical writers, to be a sort of wheels: however, Dr. Hill describes the animal, when at rest, as having a plain smooth body; being of a conic figure, obtuse at the posterior extremity, and open at the anterior; of a dusky olive colour, and semitransparent.

When in motion, it protrudes from the open extremity a part of its naked body, to the whole of which this exterior conic substance seems to be but a case or sheath. From the extremity of this exerted part of the body it thrusts out two protuberances, which give it the appearance of a double head; and in each of these is discovered an apparatus in continual motion, appearing to be a rotatory, though really a vibratory one very rapidly repeated. Each of these protruded bodies has six arms inserted into it, which continually shuts and opens over each other. Every arm is furnished with a double series of fibres at its edge, which being expanded, occasion its spreading to a considerable breadth.

Several species of this animalcule have been mentioned by Baker and others.

**WHELK, Buccina.** See SHELLS.

**WHIFF,** the *Passer Cornubiensis Asper* of

**Jago.** This fish bears some resemblance to the holbut. It is about eighteen inches long; and its greatest breadth seven, exclusive of the fins. The mouth is extremely large; the teeth are minute; the under jaw hooks over the upper; and the eyes are large. The scales are broad and rough. The lateral line is uncommonly incurved at its rise, but, after making a sharp angle, it proceeds straight to the tail, and is tuberculated. The tail is rounded. The upper part of the body is of a cinereous brown colour, clouded in some parts, and obscurely spotted; and the under side is white, tinged with red.

**WHIMBREL,** the *Scolopax Phæopus* of Linnaeus. This bird is much less frequent on our shores than the curlew, to which it is nearly allied; but its haunts, food, and general appearance, are much the same.

These birds are observed to visit the neighbourhood of Spalding, in Lincolnshire, where they receive the appellation of Curlew Knats, in vast flocks, about April, continuing only till May; nor are they seen at any other season of the year. Indeed, they seem to be then on their passage to the places where they breed, which Pennant suspects to be the Highlands of Scotland.

The specific difference between this bird and the curlew is, that the former never exceeds twelve ounces in weight. The bill is two inches and three quarters long, dusky above, and red below; the feathers on the head and neck are brown tinged with red, marked in the middle with an oblong black spot; the cheeks are of a paler colour; the upper part of the back, the coverts of the wings, the scapulars, and the extreme quill-feathers, are of the same colour with the neck; but the black spots spread out transversely on each web. The quill-feathers are dusky, their shafts white, and their exterior webs marked with long semicircular white spots. The breast, belly, and lower part of the back, are white; the coverts of the tail, and the tail itself, are of a very pale whitish brown colour, crossed with black bars; and the legs and feet are of a dull green, and formed like those of the curlew.

Pennant describes a variety of this bird, which he received from Invercauld. It was shot on the Grampian hills; measured sixteen inches in length; and differed considerably in its colours from the common Whimbrel.

**WHINCHAT,** the *Motacilla Rubetra*. This bird is about the size of the common water-wagtail. The head, neck, and back, are of a reddish brown colour, with regular rows of black spots. Over each eye there is a narrow white stroke, and beneath that a broad bed of black, extending from the bill to the hind part of the head. The breast is of a reddish yellow hue; the belly is paler; the quill-feathers are brown, edged with yellowish brown; the upper part of the wings is marked with two white spots; the lower part of the tail is white, the two middle feathers excepted, which are wholly black; and the upper part of the rest is of the same colour. The colours, however, in this bird, are very uncertain, and it frequently bears a strong resemblance to the stone-chatter; but an accurate observer may always distinguish it from that bird by the white spots on its wings, by the whiteness of the under part of its tail, and by the white lines on its head.

The colours of the female are much less pleasing than those of the male: in lieu of the white and



and black marks on the cheeks, there is a broad pale brown one; and the white on the wings is much less conspicuous than that of the male.

In the north of England, the Whinchat is a bird of passage; but in the south it continues during the whole year.

**WHISTLE FISH.** A provincial appellation for a species of gadus, with only two fins on the back. It is also called *mustela fluviatilis*. See *GADUS* and *MUSTELA*.

**WHITE HORSE FISH.** An English appellation for the *Raja Fullonica* of Rondeletius and Linnæus. The back is rough and spiny; the nose is short and sharp; there are a few spines at the corner of each eye; and the nictitating membrane is fringed. On the upper part of the pectoral fins there are three rows of spines pointing towards the back, and crooked like those of a fuller's instrument; whence it's name *Fullonica* and *Fuller*. The tail is furnished with three rows of strong spines. The upper part of the body is cinereous, usually marked with many black spots; and the lower part is white.

This fish sometimes arrives at an equal size with the skate.

**WHITE BAIT.** A small fish, which, during the month of July, is found in immense swarms in the Thames, near Blackwall and Greenwich. It is esteemed very delicious when fried with flour; and is much valued by London epicures, many of whom resort to the taverns in the vicinity of the place of capture, that they may enjoy their favourite dish in the greater perfection.

Naturalists are much divided in their opinions to what genus this fish ought to be referred; however, they uniformly seem to think it the fry of some fish, the shad, the sprat, the smelt, or the bleak. That the White Bait neither belongs to the shad nor the sprat, is evident from the number of branchiostege rays, which in those are eight, in this only three; that it is not the young of the smelt, is equally evident, because it wants the pinna adiposa; and that it is not the offspring of the bleak, is highly probable, since we never heard of the White Bait being found in any other river, notwithstanding the bleak is very common in several of the British streams.

Nevertheless, we may safely affirm, that the fish now under consideration belongs to the carp or the cyprinus genus, having only three branchiostege rays, and one dorsal fin; but, with respect to the form of the body, it is compressed like that of the bleak.

The usual length of the White Bait is two inches; the under jaw is longer than the upper; the irides are silvery, and the pupil is black; the dorsal fin is placed nearer to the head than the tail, and consists of about fourteen rays; the lateral line is straight; the tail is forked; and the tips are black.

**WHITE-TAIL.** An appellation by which some authors express the wheat-ear. See *WHEAT-EAR*.

**WHITE-THROAT.** This bird, which appears to be the *Motacilla Sylvia* of Linnæus, frequents our gardens in the summer season, and leaves us in the winter. It builds it's nest in low bushes; framing it, externally, of the tender stalks of herbs and dry straw; the middle part of fine bents and soft grass, and the inside of hair. It lays five eggs of a whitish green colour, sprinkled with black spots. It's note, which is continually repeated, and often attended with singular gesti-

culations of the wings, is harsh and ungrateful. The head is of a brownish ash-colour; the throat is white; the breast and belly are white tinged with red, in the female wholly white; the lesser coverts of the wings are of a pale brown hue; the back inclines to red; the greater coverts of the wings are dusky, edged with tawny brown; the quill-feathers are dusky, edged with reddish brown; the tail is of the same colour, except the upper part of the interior side, and the whole exterior side of the outermost feather, which are white; and the legs are of a yellowish brown hue.

This bird is timid and wild, avoiding the human race.

**WHITING;** the *Gadus Merlangus* of Linnæus. According to the Artedian system, the Whiting is one of the gadi, distinguished by the appellation of the gadus with three fins on the back, without beards, with a white body, and the upper jaw longer than the under.

The Whiting is an elegantly shaped fish. The eyes are large; the nose is sharp; and the teeth of the upper jaw are long, appearing above the lower when closed. The first dorsal fin has sixteen rays, the second eighteen, and the third twenty. The colour of the head and back is a pale brown; the lateral line is white and crooked; and the belly and sides are silvery, the last longitudinally streaked with yellow.

Large shoals of Whittings visit the British seas during the spring; seldom approaching nearer than half a mile of the shore, and as seldom removing farther than three miles from it. They are the most delicate and wholesome of any of the genus; but rarely grow to a greater length than twelve inches.

By an act of parliament, no Whittings of a less size than six inches from the eye to the extremity of the tail, may be taken in the Thames or Medway; nor at any season, except from Michaelmas to Ember Week.

**WHITING POLLACK;** the *Gadus Pollachius* of Linnæus. This fish is common on many of our rocky coasts. It is esteemed very wholesome; and commonly weighs six or seven pounds; but Pennant mentions some, caught near Scarborough, which weighed no less than twenty-eight pounds. The colour of the back is dusky, of some inclining to green; the sides beneath the lateral line are marked with yellow lines; and the belly is white. See *POLLACK*.

**WHITING POUT;** the *Gadus Barbatus* of Linnæus. This fish seldom exceeds twelve inches in length; and is distinguished from all others by it's great depth. The back is much arched and carinated; and the scales are larger than those of the cod fish. The mouth is small, and furnished with a short beard; and on each side of the lower jaw there are seven or eight punctures. The first dorsal fin is triangular, and terminates in a long fibre; the tail is even at the end, and, together with the scales, of a dusky colour. The lateral line is white, broad, and crooked. The colour of the body is white, more obscure on the back than the belly, and slightly tinged with yellow. The flesh is highly esteemed.

**WICRANGLE.** An English appellation for the mattagefs, or greater butcher-bird; the *lanus cinereus major* of some ornithologists.

**WIGEON, or WIDGEON;** the *Anas Penelope* of Linnæus. This bird, which is of the duck kind, weighs nearly twenty-four ounces; and the expansion



expansion of the wings is upwards of two feet. The bill is lead coloured, and black at the extremity; the head and upper part of the neck are of a bright light bay colour; the forehead is paler, in some almost white; the plumage of the back, and the sides under the wings, are elegantly marked with narrow black and white undulated lines; the breast is of a purplish hue, sometimes, though rarely, marked with round black spots; the belly is white, and the vent-feathers are black. In some of these birds, the coverts of the wings are almost wholly white; in others, of a pale brown hue, edged with white. The greater quill-feathers are dusky; the extreme webs of the middle feathers are of a fine green colour, tipped with black; the last are elegantly striped with black and white; the two middle feathers of the tail are longer than the rest, black, and sharp-pointed; the remainder are ash-coloured; and the legs are dusky.

The head of the female is of a rusty brown colour, spotted with black; the back is of a deep brown, edged with a paler; the tips of the lesser quill-feathers are white; and the belly is of the same colour.

**WILLOW GALLS.** A name commonly given to a kind of protuberances found on the leaves of the several species of willow; originating from a fly which deposits her eggs there, and leaves them to be hatched by the usual course of nature.

**WIMBREL.** See **WHIMBREL.**

**WINDER MEB;** the *Larus Cinerarius* of Linnæus. A bird so called by Ray; and described by Aldrovandus under the appellation of the *Larus Major*.

**WINE FLY.** A small insect, of a black colour, found in empty wine casks, and about wine lees; whence it has obtained the appellation of *Bibio* by the Latins. It is produced from a small red worm, very common in the sediment of wine.

This Fly is extremely small when the wings are not extended; but is, however, very beautiful. The breast and body are yellow; the reticulated eyes are red; and the wings contain a beautiful variety of colours. In short, these Flies form very beautiful microscopical objects; and, when viewed through that medium, they appear as elegant and perfect as the largest and most beautiful Flies that fall under the natural eye.

**WING.** That part of a bird which in general assists it in flying; but, in some species, tends only to accelerate it's running, as in the dodo, the ostrich, the auk, and the penguin. The Wing has an appendage, near it's extremity, covered with four or five feathers, called the *Bastard Wing*; the lesser coverts are denominated the *rectrices*; and the greater coverts are those which lie beneath the former, and cover the quill-feathers and secondaries. The quill-feathers, or *primores*, springing from the first bones of the wings, are ten in number, and broader on their inner than exterior sides; the secondaries are those which arise from the second part, or *cubitus*, being in number about eighteen, and equally broad on both sides. The primary and secondary wing-feathers are called *remiges*. The *tertials* are a tuft of feathers placed beyond the secondaries, near the junction of the Wings with the body: this, in water-fowl, is generally longer than the secondaries, and cuneiform. The *scapulars* are composed of a tuft of long feathers rising near the junction of the Wings with the

body, and lying along the sides of the back, but still easily distinguishable. The inner coverts are those which clothe the under side of the Wing.

The Wings of some birds are farther adapted for instruments of defence: the *Anhema* of Marcgrave, the whole tribe of *Jacana*, and the *Gambo* of Willughby, afford instances of this kind.

Wings also belong to the insect tribe; which, beside enabling them to fly, form several subordinate distinctions of the genera of those animals.

**WOLF.** The *Canis Lupus* of Linnæus. An animal of the canine kind, with a long head, a pointed nose, sharp and erect ears, a long bushy tail, long legs, and longish hair. He has large teeth, and is taller than any greyhound. His colour is generally a pale brown, tinged with yellow; though sometimes found white, and in Canada sometimes black.

The feature which principally distinguishes the visage of the Wolf from that of the dog, is the eye, which opens slantingly upwards, in the same direction with the nose; for in the dog it opens more at right angles with the nose, as in man. The tail also, in this animal, is long and bushy; and he carries it rather more between his hind legs than the dog. The colour of the eye-balls in the Wolf is a fiery green; and gives his visage a fierce and formidable air, which his natural disposition is by no means adapted to contradict.

The Wolf is, in reality, one of those animals whose carnivorous appetite is the most vehement; and whose means of satisfying this appetite are the most various. Nature has furnished him with strength, cunning, agility, and all those requisites which qualify an animal for pursuit, speed, and conquest; and yet, with all these, the Wolf frequently dies of hunger, for he is the avowed enemy of mankind. Having been long proscribed, and a reward offered for his head, he is obliged to fly from the habitations of men, and to live in the woods, where the few wild animals that frequent the forests escape him, either by their fleetness or art; or, at best, are not sufficiently numerous to gratify his rapacious disposition. He is naturally dull and cowardly; but being frequently disappointed, and as often reduced to the verge of famine, he becomes ingenious from want, and courageous from necessity. When impelled by hunger, he braves danger; and ventures to attack those animals which are under the protection of man, particularly such as he can readily carry off, as lambs, sheep, or even dogs themselves, for all animal food becomes then equally acceptable. When he has succeeded in this excursion, he often returns to the charge; till having been wounded, or hard pressed by the dogs or shepherds, he hides himself by day in the thickest coverts, and only ventures out at night: he then traverses the country, prowls about the villages, carries off such animals as are unprotected, attacks the sheep-folds, scratches up and undermines the thresholds of doors where they are housed, enters furiously, and destroys all, before he begins to select what prey he intends to carry along with him. When these sallies prove unsuccessful, he returns to the thickest part of the forest, and contents himself with pursuing those smaller animals which, even when captured, afford him but a scanty supply. He there proceeds regularly to work, following by the scent, and anxiously expecting some other Wolf to come to his assistance; for, singly, he has but very little hope of overtaking the prey. At last, when his necessities



cessities become extremely urgent, he boldly faces certain destruction; attacks women and children, and sometimes ventures even on men; becomes furious by his continual agitation; and at length terminates his miserable existence in the most outrageous madness.

This animal, as well externally as internally, so nearly resembles the dog, that he seems modelled on the same plan; and yet he only exhibits the reverse of the medal. If similar in form, his nature is so different, that he only possesses the bad qualities of the dog, without any of his amiable ones. Indeed, so much do they differ in their dispositions, that no two animals can have a stronger antipathy to each other. A young dog shudders at the sight of a Wolf; he even shuns his scent, which, though unknown, is so repugnant to his nature, that he approaches his master with trembling, and seems to implore his protection. A stronger dog, who has some degree of confidence in his own powers, bristles up at the sight, testifies his animosity, attacks him with courage, endeavours to put him to flight, and exerts all his might to be freed from such a hateful intruder. They never meet without either flying or fighting; and their combats are generally fatal to one, if not both. If the Wolf happens to get the mastery, he tears and devours his prey: the more generous dog, on the contrary, contents himself with the victory; he leaves him where he falls, either as food for birds of prey, or for other Wolves, since they devour each other; and, when one Wolf happens to be desperately wounded, the rest track him by his blood, and are sure to treat him with unrelenting severity.

The dog, even in his savage state, is not cruel; he is easily tamed, and continues firmly attached to his master. The Wolf, when early secured, becomes tame, but has never any attachment; in him nature predominates over education; with age, he resumes his natural instincts; and, as soon as opportunity serves, returns to his original retreats.

Dogs, even those of the dullest sort, seek the society of other animals; they are naturally disposed to follow and accompany other creatures not belonging to their own tribe; and even instinctively take care of flocks and herds. The Wolf, on the contrary, is an enemy to all society; not even associating with those of his kind. When seen together in packs, they are not to be considered as peaceful societies, but combinations for war: they testify their hostile intentions by their loud howlings; and, by their fierceness, discover their design of attacking some large animal, a stag, a bull, or a mastiff. The instant their project is completed, their society is at an end; they then separate, and each returns in silence to his solitary retreat.

Nor are there any strong or permanent attachments even between the male and the female; they seek each other only once a year, and continue but a few days together. They always couple in winter; at which time several males are seen following one female: and this association is still more bloody than the former; they dispute most cruelly, growl, bark, fight, and tear each other; and when one Wolf happens to be preferred by the female, the rest of the males frequently unite their force to destroy him.

The season of copulation does not continue above twelve or fifteen days; and usually com-

mences among the oldest, the young ones being more late in their desires. The males, who have no fixed time for engendering, pass from one female to another, beginning at the end of December, and ending about the commencement of March. The time of pregnancy is about three months and a half; and the young Wolves are found from the latter end of April to the beginning of July.

The period of the Wolf's gestation forms a sufficient distinction between him and the dog, did not the fiery fierceness of his eyes, his tremendous howl, and the greater duration of his life, also render him unquestionably an animal of his own particular species. In other respects, however, they are entirely similar: the Wolf couples exactly like the dog; the generative parts are formed in the same manner; and their separation is hindered by the same cause.

When the she Wolves are near their time of parturition, they seek some very tufted spot, in the thickest part of the forest; in the middle of which they make a small opening, cutting away the thorns and briars with their teeth; and afterwards carry thither a great quantity of moss, which they form into a bed for their progeny. They generally bring forth five or six, and sometimes nine, at a litter. Their cubs are produced, like those of the bitch, with their eyes closed; the dam suckles them for some weeks; and early habituates them to eat flesh, which she prepares for them by first chewing it herself. Some time after, she provides them stronger food, such as hares, partridges, and birds still alive. The young Wolves begin by playing with them, and conclude with killing them. The dam then strips them of their feathers, tears them in pieces, and distributes a share to each cub.

The young do not leave the den where they were originally produced till nearly two months old; and then they follow their dam, who conducts them to the nearest watering place. If apprehensive of danger, she immediately conceals them in some secure retreat, or brings them back to their former abode. In this manner, they follow her for several months; and, when attacked, she is resolute in their defence, exerting uncommon strength and ferocity. Though at other times more timorous than the male, at that season she becomes bold and intrepid. It is not, however, till the young are about ten or twelve months old, and until they have shed their first teeth and compleated the new, that she considers them as capable of shifting for themselves: then, when they have acquired strength from nature, and have learned industry and courage from her example, she declines all future care of them, being again engaged in rearing a new offspring.

The male and female Wolves generally begin to feel the accesses of desire at the age of two years. It is probable that the females of this species, as well as of most others, arrive at maturity sooner than the males; but it is certain that they never desire to copulate till their second winter: from whence we may suppose, that they live fifteen or twenty years; for, allowing three years for their compleat growth, this, multiplied by seven, gives them a life of twenty-one; most animals having been observed to live about seven times the number of years which they take to arrive at perfection.

The Wolf becomes grey as he grows old, and



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his teeth wear by use. He sleeps when satisfied, or fatigued, rather by day than night; and is always, like the dog, easily awaked. He drinks frequently; and in times of drought, when no water is to be found in the trunks of old trees, or in the pools about the forest, he often descends from his retreats, in order to visit the brooks or lakes in the plains. Though extremely voracious, he supports hunger for a considerable time; and frequently lives four or five days without any food, provided he is well supplied with water.

This animal possesses such vast strength, particularly in his fore parts, in the muscles of his neck, and in his jaws, as to be able to carry off a sheep in his mouth, without ever suffering it to touch the ground, and to run with it much swifter than the shepherds can pursue; so that nothing but the dogs can overtake, and oblige him to quit his prey. He bites very cruelly, and always with greater vehemence in proportion as he is less resisted; for he generally uses precautions with such animals as attempt to act on the defensive. He is invariably a coward, never fighting but when under a necessity of satisfying hunger, or making good his retreat. When wounded by a bullet, he is heard to cry out; and yet, when surrounded by peasants, and attacked with clubs, he never howls as the dog under correction, but defends himself in silence, and dies as hard as he lived.

In fact, the nature of the Wolf is more savage than that of the dog. He possesses less sensibility, and abundantly more strength. He travels, runs, and continues his predaceous excursions for days and nights successively. He is in a manner indefatigable; and perhaps, of all animals, he is the most difficult to be hunted down. The dog is mild and courteous. The Wolf, though savage, is ever fearful. If he happens to be caught in a pit-fall, he is for some time so terrified and astonished, that he may be killed without resistance, or taken alive without any considerable danger. At that instant, a collar may be clapped round his neck, he may be muzzled, and dragged along, without ever testifying the least signs of anger or resentment. At all other times, he enjoys his senses in great perfection; his eye, his ear, and particularly his sense of smelling, which is superior to all the rest. He smells a carcase at more than a league's distance; and also perceives living animals a great way off, and follows them a prodigious way by the scent. Whenever he leaves the wood, he always observes the precaution of going against the wind; and, when just at its extremity, he stops, in order to examine on all sides, by his smell, the emanations that proceed either from his enemy or his prey, which he distinguishes with great exactness. He prefers those animals which he kills himself to such as he may find dead; and yet, when driven to extremities, every sort of flesh is acceptable.

Wolves have sometimes been seen following armies, and arriving in numbers on the field of battle, where they devoured such bodies as were left upon the field, or but negligently interred. These, when once accustomed to human flesh, ever after shew a particular predilection for it, and chuse rather to attack the shepherd than his flock. It sometimes happens that one or two of these ferocious animals alarm a whole province; and a whole country has been called out to extirpate these most dangerous invaders.

The hunting the Wolf is a favourite diversion

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among the great of some nations; and it must be confessed, it seems to be the most allowable and useful of any. These animals are discriminated by hunters into the young Wolf, the old Wolf, and the great Wolf. They are distinguished by the prints of their feet. It is necessary to have a good starter for the purpose of forcing the Wolf from his retreats; and it is even proper to use every art to encourage him in the pursuit, as all dogs have a natural reluctance to follow this animal, and their endeavours are consequently void of animation.

When the Wolf is once put up, greyhounds are then let fly at him, in leashes, one after another. The first leash is sent after him at the beginning, seconded by a man on horseback; the second is let loose about half a mile farther; and the third, when the rest of the dogs come up with him, and begin to bait him. The Wolf keeps them off for a considerable time, stands his ground, threatens them on all sides, and sometimes escapes; but the hunters generally arrive in due time to the assistance of the dogs, and help to dispatch him with their cutlasses. When killed, the dogs testify no appetite to enjoy their victory; but leave him where he falls, a frightful spectacle, and hideous even in death.

This animal is also sometimes hunted with harriers; but as he always proceeds in a direct course, and often holds his speed for a whole day without intermission, this kind of chase is tedious and disagreeable; at least if the harriers are not supported by the greyhounds, which, by their superior fleetness, are enabled to harass him at every view.

Several other methods have also been adopted for the destruction of this noxious animal. He is surrounded and wounded by men and large house-dogs; he is caught in traps; he is poisoned by carcases prepared and placed for that purpose; and he is trepanned by pitfalls. Gesner mentions a friar, a woman, and a Wolf, being caught in one of these, all in the same night. The woman lost her senses by the fright, the friar his reputation, and the Wolf his life. All these disasters, however, do not prevent Wolves from multiplying in great numbers, particularly in those countries which are abundantly woody. France, Spain, and Italy, are much infested with them; but England, Ireland, and Scotland, are happily liberated from such disagreeable company.

Edgar is said to have been the first who endeavoured to extirpate these animals, by commuting the punishment for certain crimes into the acceptance of a number of Wolves tongues from each offender. In Wales, he converted the tax of gold and silver into an annual tribute of three hundred Wolves heads. We find, however, that some centuries after the reign of that Saxon monarch, these animals were again so much increased, as to become the object of royal attention. Edward the First issued out his mandate to Peter Corbet, to superintend and assist in their destruction in the several counties of Gloucester, Worcester, Hereford, Salop, and Stafford. Camden informs us, that certain persons at Wormhill, in Derbyshire, held their lands by the duty of hunting and catching such Wolves as infested that county; whence they were called *Wolve-bunt*. And these animals were so numerous in Yorkshire, during the reign of Athelstan, that a retreat was built at Flixton, in that county, to defend passengers from their attacks.

Wolves



# WOLF

Wolves infested Ireland many centuries after they were extirpated in England; for mention is made of one being killed as late as the year 1710. The last Wolf known in Scotland, was slain in 1680 by the celebrated Sir Ewen Cameron, according to the tradition of the country; nevertheless, Buffon says that he has been assured there are still some Wolves in Scotland.

The colour of these animals varies according to the different climates where they are bred; and often changes even in the same country. Besides the common Wolves, which are found in France and Germany, there are others with thicker hair, inclining to yellow: these are less savage and noxious than the former, neither approaching the flocks, nor the habitations of men, and living rather by the chase than by rapine. In the northern climates there are some entirely black, and others equally white. The former are larger and stronger than any other variety.

The species is much diffused over every part of the world; being found in Asia, Africa, and America, as well as Europe. The Wolves of Senegal resemble those of France, except that they are larger and more fierce. Those of Egypt are smaller than the European kinds. In the East, Wolves are trained up for shew, being taught to dance and play tricks; and one of those animals, when properly educated, has sometimes been sold for four or five hundred crowns.

The North American Wolves are blacker, and much smaller than those of other parts of the world; and in shape approach nearer to the dog than those of the ordinary kind. They are also said to have been used by the savages for every purpose to which we apply the dog, before the Europeans introduced the latter animal; but of this we are very doubtful. Certain it is that the European Wolf is a very noxious animal: scarcely any thing appertaining to him, except his skin, is useful; and of it furriers make a covering, which is warm and durable, though coarse and inelegant. His flesh is despised by all other animals, no other creatures being known to eat his flesh except Wolves themselves; for, when one of these animals receives a desperate wound, the rest follow him, and presently dispatch and devour him.

The Wolf breathes a most foetid vapour from his jaws, and is in every respect offensive and disgusting: a savage aspect, a frightful howl, an insupportable odour, fierce habits, and a perverse disposition, are qualities inherent in his nature; qualities which render him dreaded and detested while living, and useless when dead.

**WOLF, MEXICAN;** the *Canis Mexicanus* of Linnæus. This animal, which Pennant considers as a distinct species, has a very large head; wide jaws; vast teeth; and very strong bristles on the upper lips, reflected backwards, and not inaptly representing the softer spines of the porcupine. The ears are large, erect, and cinereous; the intermediate space is marked with broad tawny spots; the head is ash-coloured, striped transversely with bending dusky lines; the neck is fat and thick, covered with a loose skin, marked with a strong tawny stroke; and on the breast appears another of the same kind. The body is ash-coloured, spotted with black; and the sides are striped, from the back downwards, with the same colour. The belly is cinereous; the tail is of the same colour, except in the middle, where it is

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tinged with tawny; and the legs and feet are striped with black and ash-colour.

This animal inhabits the hottest parts of Mexico. In its manners it agrees with the European Wolf; attacking cattle, and sometimes men.

**WOLF, GOLDEN.** See JACKALL.

**WOLF, MARINE.** An appellation by which some writers express the hyæna.

**WOLF** is also a name given by some authors to a species of insect which infests granaries; and is extremely mischievous, by eating its way into wheat, and other kinds of grain.

**WOLF FISH;** the *Anartrichas Lupus* of Linnæus. This fish appears to be wholly confined to the hyperborean seas, having never been discovered by ichthyologists to the south of the British Channel. It is very ravenous and fierce; and, when captured, fastens on any thing within its reach. Fishermen, who dread its bite, endeavour, as soon as possible, to beat out its fore-teeth; and then kill it, by striking it on the neck.

The Wolf Fish feeds almost entirely on crustaceous animals and shell-fish; and these it grinds to pieces with its teeth, which are so excessively strong, as to leave an impression on iron. It has such a hideous and disgusting appearance, that few can be tempted to eat of its flesh, except the fishermen; though we are told, that it is by no means improper food, when skinned and properly dressed.

This fish sometimes grows to the length of four feet; and, according to Dr. Gronovius, it has been caught measuring upwards of seven feet. The head is a little flattened on the top; the nose is obtuse; the eyes are small, and placed near the extremity of the snout; and the irides are pale yellow. The fore-teeth are strong and conical, diverging a little from each other, and project far out of the jaws; and they are supported in the inside by a row of lesser teeth. The dentes molares of the under jaw are higher on the exterior than the interior edges; and they join to the canine teeth in that jaw, but in the upper they are separate from them. In the centre there are two rows of flat strong teeth, fixed on an oblong basis on the bones of the palate and the nose. The two bones which compose the under jaw are united before by a loose cartilage; and this mechanism admitting of a motion from side to side, evidently contributes to assist the fish in breaking, grinding, and comminuting its testaceous and crustaceous food. The body is long, and slightly compressed sideways; and the skin is smooth and slippery. There is no lateral line. The pectoral fins, which consist of eighteen rays, are five inches long, and upwards of seven broad; the dorsal fin extends from the hind part of the head almost to the tail; the anal fin extends as far as the dorsal; and the tail is rounded. The back, sides, and fins, are of a livid lead colour; the two first are longitudinally marked with irregular, obscure, dusky lines; but these, in different fishes, have various appearances.

**WOLVERENE;** the *Ursus Luscus* of Linnæus. This animal, called also the Glutton or Quickhatch, has a black sharp pointed visage, and short round ears, almost lost in the hair. The head, back, and belly, are covered with reddish hair tipped with black; the sides are of a yellowish brown hue; on the throat there is a white spot; on the breast a white crescent; and the legs are of a deep black colour, thick, short, and strong.

This



## W O O

This creature rests on it's foot as far as the joint of the leg, like others of the bear kind; and the tail is covered with long coarse hair, reddish at the base, and black at the extremity.

The Wolverine is about twenty-eight inches long from the nose to the tail; and the whole body is clothed with very long and thick hair, varying in colour according to the season of the year. It is a native of Hudson's Bay and Canada; and, under the appellation of Glutton, is known in the northern parts of Europe and Asia, being wholly confined to the most rigorous climates. It's voraciousness is without bounds; but it is so slow, that it can gain it's prey only by surprise. It often lurks in trees, and falls on such quadrupeds as pass below. It will fasten on the shoulders of a horse, elk, or stag, and continue eating a hole into the body till the miserable animal faints through pain. It searches for the traps intended for fables and other animals, and often anticipates the visits of the hunter.

In a wild state, the Wolverine is a very fierce animal; and a terror to both the wolf and the bear. It's skin is highly valued in Kamtschatka, where the women adorn their hair with the white paws appendant to it. In Siberia it will fetch about six shillings. The fur is likewise in high estimation throughout Europe; but that of the north of Europe and Asia is blacker and more glossy than what is imported from America.

**WOOD-CHAT**; the *Lanius Minor Primus* of Aldrovandus. A species of butcher-bird, or shrike, with a horn-coloured bill. The plumage is whitish at it's base. Above there is a black line drawn across the eyes, and then downwards on each side of the neck. The head and the hind part of the neck are of a bright bay colour; the upper part of the back is dusky; the coverts of the tail are grey; the scapulars are white; the coverts of the wings are dusky; the quill-feathers are black, with a white spot at their bases; the throat, breast, and belly, are of a yellowish white hue; and the legs are black.

In the female, the upper part of the head, neck, and body, are reddish, transversely striated with brown; the lower parts of the body are of a dirty white hue, rayed with brown; and the tail is of a reddish brown, marked near the extremity with dusky, and tipped with red.

**WOODCOCK**; the *Scolopax Rusticola* of Linnaeus. This bird is chiefly distinguished by it's size, which is smaller than the partridge; and by it's colour, which is a variegation of black, grey, and reddish brown; but the black predominates on the forehead. The quill-feathers are dusky, indented with red marks; and the belly is of a pale grey colour, variegated with transverse streaks of brown. The beak is three inches long, dusky towards the extremity, and reddish at the base; and the upper chap is somewhat longer than the under. The tongue is slender, long, sharp, and hard pointed; the eyes are large, and situated near the top of the head; a black line extends from the bill to the eyes; the forehead is of a reddish ash colour; and the chin of a pale yellow. The tail consists of twelve feathers, dusky or black on one web, and marked with red on the other; and the tips are ash-coloured above, and white below. The legs and toes are livid; the latter being divided almost to their origin, and having only a small web between the middle and interior toes.

## W O O

During the summer season, Woodcocks inhabit the Alps, Norway, Sweden, Polish Prussia; and the countries in the north of Europe; from whence they migrate, at the approach of winter, into milder climates, where the ground remains open, and adapted to their mode of subsistence. The period of their appearance and disappearance in Sweden exactly coincides with their retreat from and arrival in Great Britain.

Worms and insects are almost the only food of Woodcocks; and these they search for, with their long bills, in soft spongy grounds and moist woods. They generally arrive in this country in large flocks, taking the advantage of a fog, or the night: however, they soon separate; yet pair again before they return to their native haunts. They feed and fly by night; beginning their flight in the evening, and returning in the same manner to their day retreat.

These birds leave England the latter end of February, or beginning of March; though they have sometimes been known to continue here the whole year. In Casewood, near Tunbridge, a few are said to breed annually. About the season of incubation, they are very tame. During the first week of October, a few small flocks are usually observed to arrive on the Suffolk coasts; but the greatest part do not visit this kingdom till the months of November and December, and they always contrive to land after sun-set. They are determined in their flight by the winds, and often arrive separate and dispersed.

Before their departure, they flock towards the sea-coast, and if the wind be favourable, speedily depart; but otherwise they lurk in the neighbouring woods, or among the ling and furze on the coasts, to wait the opportunity of a prosperous gale. In a similar manner they are known to quit France, Germany, and Italy, making the hyperborean regions their general summer rendezvous.

In the winter they are found as far south as Smyrna, Aleppo, and some parts of Barbary; and some have appeared even in Egypt, which seems to limit their southern migrations. In Japan they are very common.

Our species of Woodcocks is unknown in North America; but they have a bird about half the size of the European Woodcock, in colours and conformation almost exactly the same, except that it wants the bars on the breast and belly.

Woodcocks are averse to high flights, because their direct vision is imperfect; and to this imperfection it is owing that they are so easily taken in nets spread in their places of retreat: a very profitable, as well as amusing employment.

**WOODCOCK-SHELL**. An English appellation for a shell of the purpura kind, to which the French give the name of beccaffe. There are two species, one prickly, and the other smooth.

The prickly Woodcock is an extremely beautiful and elegant shell. It is of a yellowish colour; it's beak is furnished with four rows of large and very long spines; and between these rows there are others much smaller and shorter. The body of the shell is furrowed, and very deep, adorned with a number of transverse circular lines; and both this and the clavicle are beset with several rows of long spines.

The smooth Woodcock is also very beautiful, but much less than the former; and of a yellowish colour, radiated with black and grey lines. It is

all



all over deeply fulcated; the clavicle is elevated; and the beak is extremely long, and hollowed into a sort of tube.

**WOOD-LARK.** See **LARK.**

**WOOD-MITE.** A little animal, called also the Wood Louse, frequently found among rotten wood. It has often been the subject of microscopical observations; and is probably the *Pediculus Pullatorius*, described by Derham, as constituting one of the death-watches.

**WOODPECKER.** The English appellation for a bird of the *picus* kind, of which there are numerous varieties. These form large colonies in almost every part of the world; and the wisdom of Providence in the admirable contrivance of the fitness of the parts of animals to their respective natures, cannot be better illustrated than from this tribe.

Woodpeckers subsist entirely on insects; and their principal action is that of climbing up and down the trunks or boughs of trees. For the purpose of procuring their food, they are provided with a long slender tongue, armed with a sharp bony point, barbed on each side, which, assisted by a curious apparatus of muscles, they can exert at pleasure, darting it to a great length into the clefts of the bark, transfixing and extracting the concealed insects. Such is the instrument with which this bird is provided, and such the purpose to which it is applied.

When a Woodpecker discovers a hollow rotten tree, where worms, ants eggs, or insects, may be expected, it instantly prepares for it's operations. Resting by it's strong claws, and leaning on the thick feathers of it's tail, it bores with it's sharp strong beak, till it discloses the whole internal habitation. Then, either as an expression of joy, or with an intent to alarm the insect colony, it sends forth a loud cry, which creates terror and confusion among the whole tribe, and puts them immediately in motion; while the bird luxuriously feasts on them at it's leisure, darting it's tongue with unerring certainty, and devouring the whole brood, according as appetite prompts.

The depredations of the Woodpecker, however, are not confined solely to trees; but it sometimes descends to the ground, in order to try it's fortune at an ant-hill; where it is less secure of prey, though the numbers are much greater. The insects, in this case, usually lie too deep for the birds to reach them; but they supply by stratagem the defect of their power. The bird pecks at their hills, in order to call them abroad; and thrusting out it's long red tongue, which resembles their usual prey, the ants come in crowds to fettle on it; when the bird watching a favourable opportunity, suddenly withdraws it's tongue, and devours the devourers.

The Woodpecker forms a cavity in some tree, in which it builds a nest. This is performed with it's bill, though some have erroneously affirmed, that this bird uses it's tongue as a piercer to bore with. It generally selects such trees as are decayed, or soft and spongy; in which it makes a round hole with vast perseverance and exactness. When the nest is completed, the Woodpecker immediately lays it's eggs, generally five or six in number, which are oblong, and of a semi-transparent white colour. It employs neither feathers, straw, or any other lining; but trusts entirely to the heat of it's own body.

The old hole is frequently possessed by the

jay, the starling, or the bat, which are less expert borers, and less delicate in their choice of a nest.

However, the Woodpeckers of Guinea and Brazil suspend their nests from the extremity of the branches of trees. In peopled countries, indeed, the feathered tribe exert all their address to conceal their nests from the human race; but, in climates where man is seldom seen, he cannot possibly be dreaded. In these remote and solitary forests, where the monkey and the snake are the principal enemies of the kind, the Woodpeckers are only solicitous to protect their eggs and themselves from the encroachments of these hideous invaders. For this purpose, they select the extreme branches of some tall tree, such as the banana or the plantane: there they suspend their nests in great abundance; forming them of a fibrous substance resembling hair, which being conglutinated by a viscous juice, either natural to the birds or found in the forest, easily assumes any shape. On one side there is a hole left for entrance; and there they lay their eggs and rear their young in security.

**WOODPECKER, GREEN;** the *Picus Viridis* of Linnæus. This species is about thirteen inches long; the expansion of the wings is twenty-one; and the weight nearly six ounces and a half. The bill, which is dusky, triangular, and nearly two inches long, is exceedingly strong and hard, and somewhat cuneiform at the extremity: Derham observes, that a neat ridge runs along the top, as if designed for strength and beauty. The eyes are surrounded with black; beneath which is a crimson mark in the males, which is wanting in the females. The back, neck, and lesser coverts of the wings, are green; and the rump is of a pale yellow hue. The greater quill-feathers are dusky, spotted with white on each side. The tail consists of ten stiff feathers, the extremities of which are generally broken, as the bird rests on them in climbing; their tips are black; and the remainder is alternately barred with dusky and deep green. The whole of the under part of the body is of a very pale green colour; and the thighs are marked with dusky lines. The legs, which are pale green, are short and strong; the thighs are very muscular; and two of the toes point backwards, and two forwards.

This bird is also called the Rain-fowl, because it is supposed to predict rain when it makes a louder noise than usual.

**WOODPECKER, SPOTTED, GREAT;** the *Picus Major* of Linnæus. This bird is about nine inches long, and sixteen wide; and the weight is little more than two ounces. The bill is of a black horn colour, and the forehead a pale buff. The crown of the head is a glossy black; and the hind part is marked with a rich deep crimson spot. The cheeks are white, bounded beneath by a black line, passing from the angle of the mouth, and surrounding the hind part of the head. The neck is encircled with black; and the throat and breast are of a yellowish white colour. The back, rump, coverts of the tail, and lesser coverts of the wings, are black; the quill-feathers are also black, each web being elegantly marked with round white spots; the four middle feathers of the tail are black; the next are tipped with dirty yellow; the bottoms of the two extreme ones are black; and the legs are of a leaden colour.

The female is distinguished from the male by



her wanting the beautiful crimson spot on her head.

**WOODPECKER, SPOTTED, LESSER;** the *Picus Minor* of Linnæus. This resembles the Great Spotted Woodpecker in colour and shape; but is considerably smaller, scarcely weighing one ounce. Its length, from the tip of the bill to the extremity of the tail, is only six inches; and the expansion of the wings is eleven. The forehead is of a dirty white hue; the crown of the head (in the male only) is of a beautiful crimson; the cheeks and sides of the neck are white; and the hind part of the head and neck, together with the coverts of the wings, are black. The back is barred with black and white; the breast and belly are of a dirty white hue; and the vent-feathers are a bright crimson. The crown of the head (in the female) is white; and the feet are lead-coloured.

This species has all the characters and habits of the larger kind, but is less common.

Pennant mentions a middle Woodpecker, the *Picus Medius* of Linnæus; but it differs so little from the Great Spotted Woodpecker, that he is doubtful whether it ought to be considered as a distinct species, or only as a variety. We are inclined to embrace the latter opinion.

**WOODPECKER, THREE-TOED;** the *Picus Trydactylus* of Linnæus. This species, which is a native of Hudson's Bay, and some of the northern countries of Europe, is about five inches and a half long, and eleven inches broad. The body is black, with a white streak beginning at the root of the bill, and extending on each side to the nape of the neck, where it joins, and afterwards runs down the neck, and along the back, as far as the tail. The breast and the lower belly are white and black; and the wing-feathers are black above, marked with a few rows of small white spots, and ash-coloured below. The tail is short, strong, and black, except the extreme feathers, which are marked with white at their tips. The top of the head is of a saffron colour; and the bill is angular, but terminates in a round point. On each foot are three toes, two before, and one behind; a peculiarity in which it differs from all other Woodpeckers.

**WOODPECKER, JAMAICA.** The bill of this species is straight, sharp-pointed, and black; and about one inch and a half long. The fore part of the head, all round the base of the bill, and beyond the eyes, are of a yellowish white colour; but the hinder part of the head and neck is of a bright scarlet. The throat and breast are of a dirty olive, which gradually becomes reddish on the belly, with transverse dusky lines on its lower part, and on the thighs. The coverts under the tail are marked with dusky and whitish broken transverse lines; and the back, the upper side of the wings, the rump, and the tail, are black, with narrow, transverse, light brown lines on the back, which assume a lighter colour on the wings, and become broader and whiter on the rump. The two extreme feathers of the tail have white spots on the outer webs. The legs and feet are strong, and exactly resemble those of the kind.

**WOODPECKER, SPOTTED, INDIAN.** This species has a long, straight, blackish bill, ridged on the upper part; the crown of the head, from the bill backwards, and beyond the eyes, is black, speckled with white; but the hinder part of the head is covered with long scarlet feathers tending

backwards, in form of a crest. The sides of the head below the eyes are white; and the throat, from the bill to the middle of the breast, is irregularly variegated with large black and white spots. The hinder part of the neck is black; and on each side runs a white line down to the wings. The beginning of the back is yellow; but the lower part and the rump are of a dull green hue. The belly, thighs, and coverts beneath the tail, are white, sprinkled with semilunar spots. Some of the exterior primaries are black, barred with white; the remainder, and the coverts of the wings, are of a dull green colour; and the lesser coverts are a dark brown, with distinct white spots. The tail is blackish, with a cast of dull green; the feathers that compose it are stiff and pointed; and the legs and claws are dusky.

This bird is a native of Bengal, in the East Indies.

Ornithologists mention several other species of Woodpeckers; such as the green grey-headed, the red-cheeked, the yellow, the great black, the great of Catesby, and the hanging: but all these exactly correspond in their manners and conformation; and, where the difference consists only in the colour of a few feathers, it is beneath the attention of the general naturalist to remark every variation.

**WOOD-PIGEON.** See RING-DOVE.

**WOOD-PUCERONS.** An appellation by which Reaumur expresses a small species of insect of the puceron kind, of a greyish colour, and distinguished by two hollow horns on the posterior part of its body. These insects make their way into the substance of trees, particularly elms, where they are sometimes found in great numbers after the trees are cut down.

**WOOD-SPITE.** A provincial appellation for the common green woodpecker.

**WOOFÉ.** A name by which some authors denote the sea-wolf, or *lupus marinus*.

**WORMS.** The sixth class of animals in the Linnæan distribution of nature; including five orders, the intestina, mollusca, testacea, lithophyta, and zoophyta; which are again subdivided into eighty genera, and eleven hundred and sixty-six species.

Animals of this class are distinguished by having the heart with one ventricle, and no auricle; and a cold, colourless sanies: they are particularly discriminated from insects by being tentaculated, whereas the latter are antennated.

A description of the common Earth-worm, or *Lumbricus*, a genus of the order of intestina, will give a general idea of the whole.

This creature has a spiral muscle, running round the whole body from the head to the tail, by means of which it performs its progressive motion, alternately contracting and extending itself, and keeping the ground it has gained by the slime of the fore part of its body.

Designed by nature for a life of obscurity, it seems wisely adapted for its situation. Its body is armed with small, stiff, sharp prickles, which it occasionally erects or depresses; under the skin is a slimy juice, which it ejects, according to its necessities, through certain perforations between the rings of the muscles, which assisting to lubricate its body, facilitates its passage into the earth. Like insects in general, it has breathing holes along the back, adjoining each ring; but it is destitute of bones, eyes, ears, and properly of feet;



feet; but it is furnished with a mouth, and an alimentary canal, running along to the very extremity of the tail. However, in some Worms, particularly such as are found in the bodies of animals, this canal opens towards the middle of the belly, at some distance from the tail.

The intestines of the Earth-worm are always found replete with a very fine earth, which seems to be the only nourishment it is capable of receiving.

No part resembling a brain has ever been discovered in this animal; but near the head is placed the heart, which is seen to beat with a very distinct motion; and round it lie the spermatic vessels, forming a number of little globules, containing a milky fluid: these have an opening into the belly, not far from the head; and are often found replete with eggs, which being laid in the earth, are hatched, in twelve or fourteen days, by the genial warmth of their situation.

Like snails, all these animals unite in themselves both sexes at once, impregnating and being impregnated in their turn.

During winter, Worms bury themselves deeper in the earth; and appear in some measure to participate of the native torpidity of the insect tribe: but in spring they revive with the rest of nature, and pursue the universal purpose of propagating their kind.

The most extraordinary circumstance attending Worms is, that they continue to live in separate parts; and that one animal, by the means of cutting, is divided into as many existences as fancy may propose. Each section gradually acquires what is wanting to complete the insect; and in a few months the minute parts of the original creature attain the full size and proportion, together with all the powers and appetites of the kind. Thus one of the most contemptible of lives is the most difficult to destroy; and, in proportion to the dangers to which the tribe is exposed, Providence seems to have allotted it qualities for its preservation.

Worms are very prejudicial to corn-fields, eating up the roots of the plant, and occasioning the failure of a considerable part of the crop.

One of the most efficacious things in nature for their destruction, is sea-salt: they are likewise extirpated by foot, or by a mixture of chalk and lime; but these methods are not wholly to be relied on.

If they become very troublesome and mischievous in gardens, the refuse brine of salted meat, or some walnut-leaves steeped in a cistern of water for about a fortnight, will help to destroy them; or a decoction of wood-ashes, sprinkled on the ground, will answer the same purpose.

**WORMS**; Lumbrici, or Vermes. In a medical sense, a disease originating from some of these reptiles being generated in the body, from which the most alarming symptoms sometimes proceed.

Vallisneri has proved, that Worms in the human bowels are not produced from the eggs of reptiles swallowed down with our food or drink, but that they actually propagate their kind within us. However, though this may be the case with respect to their propagation, it seems most probable that the parents were originally conveyed into the intestines by the common vehicles of aliments; and that particular sorts of food acting in conjunction with constitutional predispositions, may considerably encrease or lessen the danger.

There are three species of Worms most usually found in the human body: the teretes, or round and thick, commonly bred in the small guts, and sometimes in the stomach; the latus, or flat, called also the tænia, generally bred either in the small intestines or in the stomach; and the ascarides, or round and small Worms, generally found in the rectum.

But though the intestines are the ordinary residence of Worms, there is scarcely any part of the human body which they do not occasionally infest: for, besides the vermes intestinales already enumerated, we sometimes hear of the dentales, gingivales, pulmonarii, cardiaci, sanguinearii, cutanei, umbilicales, hepatici, salivales, &c.

So numerous indeed are the varieties of Worms which infest different parts of the body, that it is almost impossible to particularize them all: and, as for the modes of cure which physicians have prescribed, they more properly belong to medicine than natural history; for which reason we shall leave them to the proper professors.

**WORM ASCARIS.** A genus of the order of intestina, and class of vermes, in the Linnæan system; the distinguishing characters of which are, that the body is round and filiform, and attenuated towards both extremities. There are two species.

**WORM BUTTERFLY.** An appellation sometimes given to the butterfly when in the aurelia and caterpillar state. See **AURELIA** and **CATERPILLAR**.

**WORM, CANKER.** The common English name for the scarabæus or beetle. See **BEEBLE** and **SCARABÆUS**.

**WORM, COCHINEAL.** An appellation by which some authors express that valuable insect the cochineal fly. See **COCHINEAL**.

**WORM, EARTH.** See **WORMS**, and **EARTH-WORM**.

**WORM, FLY.** The worm or maggot produced from the egg of a fly destined to be transformed into the same shape with its parent, and corresponding with flies in the same manner as the caterpillar does with butterflies.

Fly-worms differ very essentially from each other in form and figure, and therefore may be arranged into several classes.

The most obvious and remarkable differences between the classes of these creatures are such as arise from the conformation and shape of their heads. Many of them have heads which are with difficulty distinguished as such; and many of them have variable heads, which alter in length, breadth, thickness, and figure, at the pleasure of the insect. There are also others whose heads are hard, and retain the same uniform and regular shape.

The first general arrangement of these Worms may be into those which have variable, and such as have invariable heads.

The subordinate distinctions may be deduced from the number, disposition, structure, and form of the other parts. Some Worms of this kind are without legs; those of others are membranous, or scaly; and others have them both membranous and scaly. Some Worms possess the power of changing the figure of their bodies at pleasure; the bodies of others are rigid, and incapable of any alteration. Others, again, have a thin membranous coat; while others have a firm and scaly, or crustaceous covering. And farther, considerable



able discriminations may be remarked with regard to the position, number, and figure, of their organs of respiration.

Among Fly-worms with variable heads, the disposition of the stigmata, at which the tracheæ terminate, will afford several distinctions of genera. For instance; the Worm of the common flesh-fly has six apertures in it's stigmata, three in each; but the Worms of many other flies have only one small eminence in each: others have them cylindric and hollow, and projecting like horns, of which some have two, three, or more, differently situated and arranged.

The number and figure of the tentacula or hooks, which supply the place of teeth, may also afford subjects of distinction. The Worm of the common flesh-fly has two hooks, with a dart between them; others have hooks without any dart; some have only one hook; and others are totally destitute of this distinction. The figure of the body, and the differences of size and colour, may furnish farther discriminations with regard to the genera of the first class.

Worms of the second class, with variable heads, but which have the addition of legs, like those of the caterpillar class, have often a sort of hooks fastened to them: they have also a long fleshy tail, capable of contraction or extension, and hence they have been called Rat-tailed Worms. In this division, the tail is the principal organ of respiration; it's end being always open, and supplying the office of the stigmata in other genera.

The third class of Fly-worms is composed of such as have invariable heads, and are destitute of any thing analogous to the organization of moveable jaws. These form a very numerous family both in the terrestrial and aquatic kingdom; and all of them produce two-winged flies.

Under this class Reaumur enumerates and describes eight genera.

This ingenious naturalist also mentions Worms of another class, usually producing four-winged flies, having heads of an invariable figure, and two teeth or moveable jaws near the aperture of the mouth, with the stigmata placed on the sides of their bodies. The flies produced from these are bees, wasps, ichneumons, and gall-flies.

There is another class of the hexapode, or six-legged Worms, without any mouth, but having two openings at the top of their antennæ, through which their aliments may pass. The formica leo and the puceron-eaters belong to this class.

Various other distinctions have been mentioned by curious investigators of the insect tribe; but those being the principal, may be sufficient for us to enumerate.

**WORM-GOURD.** A species of tania or tape-worm, the body of which is of an oblong form; flat on the belly, and rounded on the back. The skin is soft; and the mouth is large, horizontal, and emarginated in the middle. It resembles the common gourd in figure; and hence it has received the appellation of Vermis Cucurbitinus, or the Gourd-worm. It is frequently found in the intestines of animals.

**WORM, GOLDEN.** A name by which some naturalists express the aphrodita. See **APHRODITA**.

**WORM, GALLY.** See **GALLY-WORM**.

**WORM, GLOW.** See **GLOW-WORM**.

**WORM, HORSE.** See **HORSE-WORM**.

**WORM, SILK.** See **SILK-WORM**.

**WORMS, SEA.** Animals of this kind are included in a sort of cases or pipes; and may be divided into two classes, according to the nature of those cases. In the one class there are only composed of grains of sand, fragments of shells, and similar substances, fastened together by a viscous humour; in the other, they consist of a real shelly matter.

**WORMS, AQUATIC.** Insects of this kind are extremely numerous, and compose many different genera. Some of these transform themselves into flies, without any visible change in their exterior form, by a very singular process; and others are capable of reproduction, in the manner of the polype, after being divided into any indefinite number of parts.

**WORMWOOD-FLY.** An appellation by which naturalists have expressed a small black fly, commonly found on the leaves and stalks of the plant from which it receives it's name, during the months of June and July.

**WORRALL.** An animal of the lizard kind, about four feet long, and eight inches broad; with a forked tongue, but no teeth.

It is a native of Egypt, principally frequenting the grottos and caverns in the mountains on the west of the Nile, where it sleeps during the winter, and makes it's appearance only in the hottest months.

This creature is perfectly harmless and gentle, feeding only on large flies and the smaller species of it's own genus. Music has been said to have a most powerful effect on it; but experience has proved this to be an ill-grounded assertion.

**WRASSE.** A marine fish, to which different ichthyologists have given the appellations of turdus vulgaris, tinca marina or sea-tench, and sometimes the old-wife. There are several species.

**WRASSE, ANCIENT, or COMMON;** the Labrus Tinca of Linnæus. This fish bears some resemblance to the carp in figure, and is covered with large scales. It grows to the weight of four or five pounds. It's colour is very variable, red, yellow, and brown, being frequently intermixed in the scales; and there are five or six longitudinal lines, alternately of a pale yellow, an olive colour, and a dusky red. The nose is long, and incurvated upwards; and the lips are thick and fleshy, extending over the jaws. The mouth is small; the teeth are disposed in two rows, the first conic, and the second very minute; but neither very sharp. In the throat, just before the gullet, there are three bones, two above of an oblong form, and one below of a triangular shape, with the surface of each rising into roundish protuberances; and these are of singular use to the fish in comminuting it's shelly food before it arrives at the stomach. The dorsal fin consists of sixteen sharp and spiny rays; and nine soft ones, longer than the others. The pectoral fins, which are large and round, are composed of fifteen rays; the ventral fins consist of six, the first sharp and strong; and the anal of three sharp spines, and nine flexile. The tail is rounded at the extremity, and formed of fourteen soft branching rays. The membranes of the fins and tail are variegated with red and blue spots; and the anterior rays of the back fin are prickly.

The Wrasse abounds on the English shores. It is eaten by the poor in Cornwall and Wales, but is not considered as a delicate fish. It is found in deep water, adjacent to rocks; and will take



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take a bait, though it's native food be shell-fish, and the smaller crustaceous animals.

**WRASSE, BIMACULATED**; the *Labrus Bimaculata* of Linnæus. This species has a pretty deep body, of a light colour, marked in the middle on each side with a round brown spot, and another on the upper part of the base of the tail. The lateral line is incurvated; the branchiostege rays are six; the first fifteen rays of the dorsal fin are spiny, the other eleven soft, and lengthened by a skinny appendage; the pectoral fins consist of fifteen rays; the ventral of six, the first spiny, the second and third terminating in a slender bristle. The anal fin is pointed, the four first rays being short and spiny, the rest long and soft.

This fish is a native of the Mediterranean, and is also found sometimes in the British seas.

**WRASSE, BALLAN.** This variety (for it does not appear to constitute a distinct species) is annually caught in great abundance off Scarborough, where it is frequently found to weigh five pounds.

In shape, it resembles the common Wrasse; except that between the dorsal fin and the tail there is a considerable depression, above the nose a deep fulcus, and on the farthest cover of the gills a depression radiated from the centre. The branchiostegous rays are four; the dorsal fin has thirty-one rays, twenty spiny, the rest soft; the pectoral fins consist of fourteen rays; the ventral of six; and the anal of twelve.

The tail is rounded at the extremity; and at the bottom, for about a third part of the way, between each ray, there is a series of scales. The usual colour is yellow, spotted with orange.

**WRASSE, TRIMACULATED.** This species, which is found on the coast of Anglesea, measures about eight inches. It is of an oblong form: the nose is long; the teeth are slender; and the eyes are large. The branchiostegous rays are five in number. The dorsal fin is composed of seventeen spiny rays, and thirteen soft ones; and beyond each extends a long nerve. The pectoral fins are round, and consist of fifteen branched rays; the ventral of six rays, the first spiny; and the anal of twelve, the three first short, very strong and spiny, the others soft and branched. The tail is rounded; the lateral line is straight at the beginning of the back, but becomes incurvated towards the tail. The body is covered with large red scales; and the covers of the gills with small ones. On each side of the lower part of the dorsal fin are two large spots; and there is a third between the fin and the tail.

**WRASSE, STRIPED.** This species was first discovered by Pennant on the coast of Anglesea. It's form is oblong, and it measures nearly ten inches. The lips are large, double, and reverted. In the number of rays in the dorsal, ventral, and pectoral fins, it resembles the Trimaculated Wrasse; but the anal fin has fifteen rays, the three first strong and spiny. The tail is nearly even at the extremity. The covers of the gills are cinereous, striped with a beautiful yellow; the sides are marked with four parallel lines of greenish olive, and the same number of an elegant blue. The back and belly are red, the last being much paler than the former. Along the beginning of the dorsal fin there is a broad band of rich blue; the middle part is white; the rest red. A dark olive spot appears at the base of the pectoral fins, the

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extremities of the anal and ventral fins are of a bright blue colour; the upper half of the tail is of the same hue; and the lower part of it's rays is yellow.

**WRASSE, GIBBOUS.** To Pennant we are indebted for the description of this species, which was caught off Anglesea. It's length is about eight inches; it's figure is deep and elevated, the back being vastly arched, and very sharp. From the rise of the head to the nose there is a steep declivity; above each eye there is a dusky femilunar spot; the nearest cover of the gills is beautifully serrated; the first sixteen rays of the dorsal fin are strong and spiny, the rest soft and branched; the pectoral fins consist of thirteen rays; the ventral of six; and the anal of fourteen, of which the three first are strongly aculeated. The tail is large, rounded at the extremity, and furnished with branched rays, their extremities extending beyond the webs. The lateral line is incurvated towards the tail; the gills and body are covered with large scales; and the colours are an agreeable intermixture of green, orange, red, and blue.

**WREATH.** An appellation by which some connoisseurs express the turbo. See **TURBO**.

**WREN.** A well-known bird, of which there are several species.

**WREN, COMMON**; the *Motacilla Troglodytes* of Linnæus. This species weighs about three drams; and is four inches and a half long from the tip of the bill to the extremity of the tail. The head and upper part of the body are of a deep reddish brown colour; and above each eye there is a stroke of white. The back, the coverts of the wings, and the tail, are marked with slender transverse lines of black; and the quill-feathers with bars of black and red. The throat is of a yellowish white hue; the belly and sides are crossed with dusky and pale reddish brown lines; and the tail is intersected with dusky bars.

The Wren may be placed among the finest of our English singing-birds. It continues it's melody throughout the winter, except in extremely severe frosts; and both it's voice and manners are full of vivacity. The female builds a curious nest, of an oval shape, very deep, with a small aperture in the middle for ingress and egress: the external part consists chiefly of moss; and the internal of hair and feathers. It lays from ten to eighteen eggs, of a white colour, sprinkled all over with pale reddish spots. Ray observes, that it is one of those daily miracles which escape our observation, that a Wren should produce so many young, and regularly feed each of them in total darkness.

The Wren breeds twice a year; first about the end of April, and a second time about the middle of June. The young may be easily reared. For this purpose they should be taken out of the nest at about fourteen days old, and fed with the hearts of animals well minced, and mixed with eggs. When they are able to peck this meat for themselves, they may be put into cages: nevertheless, they should be served for some days longer, lest they should neglect themselves, and thus die of hunger. When grown up, they may be fed with palle, without any flesh. They will speedily take to their own natural wild notes; but they may be taught any other with a moderate share of trouble and attention.

The Wren usually creeps about hedges and holes, making but short flights; and, if it be



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driven from the hedges, it may be easily tired and run down.

**WREN, WILLOW, or YELLOW;** the *Motacilla Trochilus* of Linnæus. The weight of this bird is about two drams. The upper part of the body is of a dusky green colour; and the wings and tail are brown, edged with yellowish green. A yellowish stroke passes over each eye. The breast, belly, and thighs, vary in their colour in different birds: in some, they are of a bright yellow; and, in others, almost white.

This species builds in hollows in the sides of ditches, forming an oval nest, with a large hole at the top for an entrance; the outside consisting of moss and hay, and the inside being lined with soft down. It usually lays seven eggs, which are white, marked with rust-coloured spots. Its note is low and plaintive. It frequents large moist woods, and such places as abound with willows; from which circumstance it is not unfrequently called the Willow-wren.

**WREN, GOLDEN-CRESTED;** the *Motacilla Regulus* of Linnæus. This is the smallest of all British birds, weighing no more than twenty-six grains. It is about three inches and a half in length; and the expansion of the wings is five inches. It is easily distinguished from other birds, not only by its size, but also by the beautiful scarlet mark on its head, bounded on each side by a fine yellow line. The bill is dusky; the feathers of the forehead are green; and a narrow white line extends from the bill to the eyes. The hind part of the neck and back are of a dull green colour; the coverts of the wings are dusky, edged with green, and tipped with white; the quill-feathers and the tail are dusky, edged with pale green; the throat and belly are white, tinged with green; the legs are of a dull yellow hue, and the claws are extremely long in proportion to the size.

This bird frequents woods, and is usually seen perched on oak-trees. Its note does not materially differ from that of the common Wren. It continues in this island the whole year; and, though a weak and minute creature, seems capable of supporting the rigour of our severest winters.

**WREN, RUBY-CROWNED;** the *Motacilla Canadula* of Linnæus. This is a native of North America, particularly of the province of Pennsylvania. The bill is black; the head, the back part of the neck, and the rump, are of a darkish olive green colour, but deeper on the head, and lighter on the rump; a spot of the most beautiful red adorns the crown of the head; and the breast and belly are of a lightish yellow or cream colour. The coverts of the wings are olive-coloured, with whitish tips, forming two lines across each wing; the three quills next the back are dusky, edged with cream-colour; and the remainder of the quills are also dusky, with narrow greenish edges.

## W R Y

The tail is black or dusky, edged with yellow green, but ash-coloured beneath; and the legs, feet, and claws, are dusky.

**WREN, CARIBBEE.** This is a native of the West Indies; where, on account of its melodious note, it has received the appellation of the nightingale. It is larger than the common Wren; and is the more remarkable for possessing a fine voice in a country where birds are not much celebrated for that excellence.

**WRINGLE-TAIL.** An appellation by which some authors express the *curvicauda*; a species of bee-fly very much resembling the bee in shape, but having only two wings.

This insect is very troublesome to horses, by laying its eggs in their hides. It is also called the whame and barrel-fly.

**WRY-NECK.** A bird of the pie kind, to which some naturalists give the name of *Torquilla*. It forms a distinct genus in the Linnæan system, under the denomination of *Jynx*: the characters of which are; the bill is slender, round, and pointed; the nostrils are concave and naked; the tongue is very long, slender, cylindric, and terminated by a hard point; and the feet are formed for climbing. There is only one species.

This bird, which Linnæus distinguishes by the appellation of the *jynx*, has its colours pencilled in the most elegant manner, though its plumage is marked with the plainest kinds. A list of black and ferruginous strokes divides the top of the head from the back; the sides of the head and neck are ash-coloured, beautifully traversed with fine lines of black and reddish brown; the quill-feathers are dusky, but the webs are marked with rust-coloured spots. The chin and breast are of a light yellowish brown hue, adorned with sharp-pointed bars of black; the tail is composed of ten feathers, broad, and feeble at their extremities, of a pale ash-colour, sprinkled with red and black, and marked with four equi-distant bars of black. The irides are of a yellowish colour; and the tongue is long and cylindric, being adapted for the same purposes with that of the woodpecker.

Pennant is of opinion that the Wry-neck is a bird of passage. It generally appears a little before the cuckoo; and its note is like that of the kestrel, a quick repeated squeak. It builds in the hollows of trees, forming its nest of dry grass. It has a very singular and whimsical method of turning its neck round, and bringing its head over its shoulders; whence it has received the appellation of *Torquilla*, and in English the Wry-neck. It also possesses the faculty of erecting the feathers of its head like the jay. Its usual food consists of ants, which it dextrously transfixes with the bony and sharp end of its tongue, and then draws them up into its mouth.

This bird weighs about one ounce and a quarter; its length is seven inches; and the expansion of its wings eleven,



## X.

**XANTHURUS INDICUS.** An appellation by which some ichthyologists express the Geel-stardt of the Dutch; a fish about the size and shape of the bream, having it's jaws armed with straight and very sharp teeth, which project almost directly forward. The back is yellow; the tail is very strongly tinged with the same colour; the belly is of a blueish white; the head is brown; and the fins are of a vivid red hue.

This fish is frequently caught among the rocks on the shores of the East-Indies. It's flesh is delicate, and esteemed salubrious.

**XANXUS.** A name given by some conchologists to a large species of shell found in great abundance near the Isle of Ceylon. It is used in medicine as an alkali and absorbent, much in the same manner as the European testaceous powders.

**XATHOS.** An appellation given by Appian, and other ichthyologists, to the erythrinus, or rubellio.

**XIPHIAS.** The classical name for the sword-fish. See SWORD-FISH.

**XOCHITENACATL.** An American name for the toucan, or great-beaked magpie.

**XOCHITENACATL ALIA.** An appellation given by Nieremberg to a bird resembling the toucan, or Brazilian magpie. It is about the size of a pigeon. The beak is large, thick, black, and sharp-pointed; the wings and tail are variegated with black and white; a large black stroke reaches from the back to the breast; the anterior part of the wings is yellow; the rest of the body is of a pale colour; and the legs and feet are brown.

This bird is pretty common, among the sweet-flowering trees, in many parts of South America.

**XOMOTL.** An American bird, of which Nieremberg gives a short and very imperfect description. He says it is a web-footed fowl; that the back and upper part of the wings are black; that the breast is brown; and that, when enraged, it erects the feathers of it's head in form of a crest.

## Y.

**YARWHELP.** A provincial appellation for the ægocephalus of ornithologists. See GODWIT.

**YAYAUHQUITOTOTL.** An American bird described by Nieremberg, remarkable for having two feathers in it's tail much longer than the rest, and naked for a great way from their base, but terminating in a tuft of black and blue filiform feathers.

This bird is about the size of a starling; and beautifully variegated with green, blue, yellow, and grey.

Ray seems to be of opinion, that this corresponds with the Guaira-Guainumbi of Marcgrave.

**YELLOW-HAMMER;** the *Emberiza Citrinella* of Linnaeus. A common English bird; called also *emberiza lutea*, *hortulanus*, *luteus*, or *chloreus*.

The bill is dusky. The crown of the head is of a pleasant pale yellow colour; in some, almost plain; in others, spotted with brown. The hind part of the neck is tinged with green; the chin and throat are yellow; the breast is marked with an orange red; the belly is yellow; the lesser coverts of the wings are green, the others dusky

edged with rust-colour; the back is of the same colours; the rump is of a dull red hue; and the quill-feathers are dusky, edged on their exterior webs with yellowish green. The tail is slightly forked: the middle feathers are brown; the two central ones are edged on both sides with green, the others on their exterior sides only; and the interior sides of the two extreme feathers are obliquely marked with white near their extremities.

This bird forms a large flat nest on the ground, near some bush or hedge; lining it with moss, dried roots, and horse-hair. It lays six white eggs, veined with dark purple; and in winter frequents our farm-yards together with other small birds.

Pennant gives this species the appellation of the yellow bunting. See BUNTING.

There is another variety much smaller, and of a browner colour on the back, which ornithologists have distinguished by the name of *Zi-volo*.

**YS.** An appellation given by Athenæus, and other Greek ichthyologists, to the fish called also *mus* and *fus*. It is the *capricus* of the later naturalists. See GOAT-FISH.

YSARD.



## Z E B

**YSARD.** A term frequently used to denominate that animal which is more generally known by the name of the chamois.

**YZQUAUHTLI.** An Indian name for a bird described by Nieremberg, called also the crested eagle.

**YZQUIEPATL.** An American animal of the mustela kind, with a short slender nose, short ears and legs, a black body full of hair, and a long tail. The entire length is about eighteen inches.

It inhabits Mexico, and probably other parts of America; living in caves, and the hollows of rocks, where it breeds and rears it's offspring. It feeds on worms, beetles, and other insects; and, when pursued, emits such a horrid stink, as is scarcely supportable by any other living creature.

Professor Kalm relates, that he was one night

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in the most extreme danger of being suffocated by one of these animals, that was pursued into the house where he slept; and that it affected the cattle so sensibly, as to occasion their bellowing through excess of pain.

The stench of another of these animals, which was killed by a maid-servant in a cellar, so affected her, that she lay seriously ill for several days; and all the provisions in the place were tainted to such an extraordinary degree, that the owner was obliged to throw them away. Nevertheless, the flesh of this creature is reckoned fit for food, and not very dissimilar to that of a pig; but, if intended for use, it must be skinned as soon as possible, and the bladder carefully extracted. See **CONEPATL.**

## Z.

**ZAUROS.** An appellation by which several of the ancient Greek ichthyologists express the fish called saurus and lacerts by the moderns; and by the Italians at Rome, arantola.

Artedi distinguishes it by the name of the omerus, with eleven rays in the pinna ani. In the Linnæan system, it is the salmo saurus with ten rays in the pinna ani.

**ZEBRA;** the *Equus Zebra* of Linnæus. Whether we consider symmetry of shape, or beauty of colours, this is perhaps the most elegant of all quadrupeds. In it the figure and gracefulness of the horse are united with the nimbleness of the stag.

In the most valuable animals, the species are few and distinct; in the lower orders, they are numerous, and often blended. There are only three animals of the horse kind; the horse, which is the most stately and courageous; the ass, which is the most patient and humble; and the Zebra, which is the most beautiful, but at the same time the wildest animal in nature. Nothing indeed can surpass the delicate regularity of this creature's colour, or the lustrous smoothness of it's skin; but, on the other hand, nothing can be more untractable and indocile.

The Zebra is chiefly a native of the southern regions of Africa; and whole herds of them are sometimes observed feeding in those extensive plains which lie towards the Cape of Good Hope. However, their vigilance is such, that they will suffer nothing to approach them; and their fleetness is so great, that they instantly leave every pursuer far behind.

In shape, the Zebra rather resembles the mule than the horse or the ass. It is somewhat inferior in size to the former, but larger than the latter. It's ears are not so long as those of the ass, and yet not so small as in the horse kind. Like the ass, the head is large, the back straight, the legs finely placed, and the tail tufted at the end. Like

the horse, the skin is smooth and close; and the posteriors are round and fleshy. But it's most distinguishing beauty lies in the amazing regularity and elegance of it's colours: in the male, they are white and brown; in the female, white and black. These colours are disposed in alternate stripes over the whole body; and with such exactitude and symmetry, that they appear as if nature had employed the rule and compass to render them perfect. The stripes, which, like so many rib bands, are laid all over the body, are narrow, parallel, and distinct from each other. It is not here as in other party-coloured animals, where the tints are blended and confused: every stripe in the Zebra is perfectly separate; and preserves its colour round the body or the limb, without any diminution. In this manner are the head, the body, the thighs, the legs, and even the tail and ears, beautifully streaked; so that, at a little distance, a person unacquainted with the properties of this animal would be apt to suppose that it was dressed out by art, and not thus admirably adorned by nature.

In the male Zebra, the head is striped with fine bands of black and white, which in a manner center in the forehead; the ears are curiously variegated with white and dusky brown; and the neck has broad stripes of the same dark brown colour running round it, with narrow white stripes between. The body is also striped across the back with broad bands, having narrower spaces of white between them, and terminating in points at the sides of the belly, which is white, except a black line pectinated on each side, reaching from between the fore-legs, along the middle of the belly, about two thirds of it's length. There is a line of separation between the trunk of the body and the hinder quarters on each side; behind which, on the rump, there is a narrow plat of stripes united together by a stripe reaching down the middle to the extremity of the tail.

In



In the female Zebra, the colours are different; and in none do the stripes seem exactly to correspond in form, but in all they are equally distinct; the hair is equally smooth and fine; the white is bright and unmixed, and the black or brown thick and lustrous.

So remarkable is the beauty of this animal, and so excellently do all its parts seem adapted for utility and service, that it might be supposed calculated both to satisfy the pride and pleasure of man. Hitherto, however, it appears to have disdained servitude; and neither force, stratagem, nor clemency, have been able to wean it from its native independence and ferocity. But this disposition might in time be surmounted; for it is highly probable that the horse and the ass, when first taken under the protection of man, were equally fierce, obstinate, and ungovernable.

Buffon informs us, that the Zebra from which he borrowed his description could never be entirely mastered, notwithstanding all the repeated and assiduous efforts that were made to reclaim it. A man, indeed, was sometimes able to mount it, with the assistance of two more to hold the reins: but such was its extreme fierceness, that no person could ever consider himself as safe on its back; and even the approach of any of the human species always set it on exhibiting a determined resolution of resistance or annoyance.

An animal of the same kind, in the Queen's Menagerie near Buckingham Gate, is equally untractable and vicious. Yet, as the Zebra bears such a striking resemblance to the horse, it is probably endued with some similitude of manners; and though a series of years might be requisite to render it perfectly domestic and useful, there seems no reason to doubt but it might be added to the number of the servants of man.

Where these animals are most frequent, the human inhabitants themselves appear to be but a few degrees elevated above quadrupeds. The natives of Angola and Caffraria have no other idea of advantage to be derived from horses, but as they are proper for food. Neither the fine stature of the Arabian courser, nor the delicate colourings of the Zebra, furnish any allurements to a race of people who only consider the quantity of its flesh, and not its conformation. The delicacy of the Zebra's shape, or the painted elegance of its form, are no more regarded by such, than by the lion that attacks it as his prey. Hence we may reasonably conclude, that the Zebra has hitherto continued wild, because it is the native of a country where no successive and proper efforts have been used to reclaim it. All pursuits that have hitherto been instituted against it, respect its life rather than its liberty: the animal has thus been taught to consider man as its foe, not its protector; and it is not surprizing that it refuses to yield obedience where it has so seldom experienced mercy.

All animals have a kind of instinctive knowledge of their enemies, and take every precaution to avoid them. The deer avoids the lion, and the mouse the paws of the cat. Instinct warns these and other animals of their danger; and this cause may have prevented the Zebra, with many more, from resigning their liberty, where they had every thing to dread, and nothing to hope.

However, as a civilized people have been now a considerable time in the possession of the Cape

of Good Hope, where the Zebra is chiefly found, there seems some probability that it may yet be tamed and rendered serviceable. Nor is its extraordinary beauty the only motive we have for wishing this animal among the number of our dependents: its swiftness is said to surpass that of all others; so that the speed of the Zebra is become proverbial among some nations. It also stands better on its legs than a horse; and is consequently stronger in proportion.

The Zebra, besides inhabiting Caffraria and Angola, is said by Lopez to be a native of some provinces of Barbary. In those vast forests where it resides, it has nothing to abridge its freedom; it is too cautious to be caught in traps, and therefore is seldom taken alive. It would appear, indeed, that none of these animals have been ever brought into Europe, that were caught sufficiently young to be untinged with their original and native wildness: yet, if we may credit Dapper, the Portuguese have succeeded in taming a few, which were so far brought under subjection as to draw the king's coach at Lisbon. However, of those which were sent to Brazil, not one could be tamed; they would permit but one man to approach them; they were tied up very short, and secured with all imaginable care; nevertheless, one of them got loose, and bit his groom to death.

Though the Zebra is a native of Africa alone, being unknown to the other quarters of the globe, it is fed with ease, and appears capable of existing in any climate not intensely cold. One which was exhibited in England a few years ago, would eat bread, meat, and tobacco; or, as if regardless of such delicacies, would even feed on hay.

As this animal so nearly resembles the horse and the ass in its structure, it probably brings forth annually as they do; but of this we have no certain testimony. Its voice is neither like that of the horse nor the ass, but resembles in some measure the confused barking of a mastiff dog.

Attempts have been made to produce a breed between the Zebra and the ass, but without the least effect. The Zebra either disdained, or discovered no emotion for a she-ass that was presented to him. This coldness could not be ascribed to any other cause than an unsuitableness in the natures of the two animals, or to that untamed spirit which would not permit him to propagate in confinement.

These animals are often sent as presents to the Oriental princes: and we are told that one of the governors of Batavia presented a Zebra, which had been sent him from Africa, to the Emperor of Japan, for which he received, as an equivalent, about the value of sixty thousand crowns. Teller also relates, that the Great Mogul gave two thousand ducats for one of them: and it is common enough for the African ambassadors to the Ottoman court to bring some of these beautiful creatures with them, as introductory presents to the Grand Seignior.

Buffon seems to think the fertile mule of Tartary, called Czigithai, is an animal of the same species with the Zebra; for there seems to be no difference between them but in colour; and it is well known, that the differences in the colour of the hair or feathers are extremely slight, and frequently depend on the nature of the climate. The czigithai is found in the southern parts of Siberia, in



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Thibet, and in Tartary. Gorbillon remarks, that these animals are common in the country of the Mongoux and Hakas; that they differ from domestic mules; and that they cannot be trained to bear burthens. Muller and Gmelin assure us, that they are numerous in the country of the Tongusians, where they are hunted like other game; that in Siberia, towards Borsja, they are very plenty, in dry seasons: and adds, that they resemble a bright bay horse in figure, size, and colour, except that they have very long ears, and a tail like that of a cow.

If those travellers who examined the czigithai, had at the same time compared it with the Zebra, they would probably have discovered a great number of relations. In the Petersburg cabinet there are stuffed skins both of the Zebra and the czigithai; and from these it appears, that though they differ in colour, they undoubtedly belong to the same, or a very neighbouring species. Time alone can remove or confirm these conjectures: but as all the other animals of Africa are likewise found in Asia, if the Zebra and czigithai are not of the same species, the Zebra alone would be an exception to this general rule.

Besides, if the czigithai is not the same with the Zebra, it may be the Asiatic animal called Onager, or wild ass. The onager certainly should not be confounded with the Zebra; but whether the same remark is applicable to the onager and czigithai, is a circumstance that cannot now be determined. However, we are well assured, from the concurrent testimony of every traveller and naturalist, that all these animals belong to the same genus, and constitute three, if not four, branches of the same family.

**ZEBU.** An appellation by which Buffon expresses the dwarf ox, or *Bos Indicus* of Linnæus. See Ox.

**ZERDA.** A Moorish name for an animal inhabiting the Desert of Zaara extending beyond Mount Atlas. Pennant classes it under the genus of dogs: and describes it as having a pointed visage; long whiskers; large, black, bright eyes; very large ears, of a roseaceous hue, internally lined with long hairs, and the orifice so small as scarcely to be visible. The legs and feet resemble those of a dog; and the tail is taper. The colour is between a straw and a pale brown. The length of the animal, from the nose to the tail, is ten inches; the ears are three inches and a half long; the tail is six; and the height is about five.

The Zerda burrows in the sandy ground; and is so excessively swift, that it is seldom taken alive. It feeds on insects, especially locusts; sits on it's rump; is extremely vigilant; barks like the dog, but with a shriller sound, and chiefly in the night; and seems of a melancholy and reserved disposition.

Buffon has given a figure of this animal, which still is very little known; but, on the doubtful authority of Bruce, ascribes to it a different place, and different manners from those it actually possesses. This elegant, and in general well informed naturalist, says that it is found to the south of the Palus Tritonides, in Lybia; that it has something of the nature of the hare, and somewhat of the squirrel; and that it lives in palm-trees, and feeds on fruits.

**ZERTA.** An Italian fish, of the figure of the chub; called also by ichthyologists *capito anadromus*,

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dromus, and the blike. It seldom exceeds two pounds in weight; and sometimes lives in rivers, and at others in the sea. It's flesh is esteemed very delicate, particularly if caught a little before spawning time.

The Zerta is that species of cyprinus which Gesner has described under the appellation of *capito anadromus*.

**ZEUS.** A genus of fish, of the order of thoracici: the distinguishing characters of which are; that the head is compressed and declining; the upper lip is fornicated by means of a transverse membrane; the tongue is subulated; the branchiostège membrane has seven perpendicular rays, the lowest placed transversely; and the body is compressed.

There are four species; the vomer; the gallus, or abacatuia; the faber, or doree; and the aper.

**ZIBET;** the *Felis Zibethus* of Gesner, and the Le Zibet of Buffon. A variety of the civet, first distinguished by the last mentioned naturalist; a native of Mexico, and probably introduced there from the Philippines.

This creature belongs to the genus of mustela. The ears are short and rounded; the nose is long and sharp; the face is pale and cinereous; the head and lower part of the neck are mixed with dirty white, brown, and black; the sides of the neck are marked with stripes of black, beginning near the ears, and terminating at the breast and shoulders; from the middle of the neck, along the ridge of the back, extends a black line, reaching some way up the tail; and on each side there are two others. The sides are spotted with ash-colour and black; the tail is barred with black and white; and the black bars are broader on the upper side than the lower. See CIVET.

**ZIFIUS.** An appellation by which Albertus denominates the xiphias, or sword-fish.

**ZIGURELLA.** A name by which some ichthyologists express the julis; a small, but very beautiful fish, common about Genoa, in some degree approaching to the nature of the turdus or wrasse.

In the Artedian system, it is a species of labrus, distinguished by the name of the palmaris labrus, with two large teeth in the upper jaw.

**ZIGRACH,** or **ZIDRACH.** An appellation sometimes used for the syngnathus of Artedi, more commonly called the hippocampus.

**ZISEL.** A name by which Buffon expresses the earless marmot; the *Mus Citellus* of Linnæus.

**ZIVOLO.** A name given by some ornithologists to the smaller species of yellow-hammer; so called from it's constantly reiterated note, Zi, Zi.

This bird is about the size of the common sparrow. The beak is thick and short; the breast and belly are yellowish, spotted with brown; and there are some yellow spots on the neck and sides of the male, of which the female is destitute. The head, back, wings, and tail, are of a dusky brown colour; but two of the tail-feathers on each side have a variegation of white.

The Zivolo is generally seen on the ground; and feeds on seeds, and such other fare as the rest of it's kind shew a predilection for. Indeed, it does not essentially differ from the common yellow-hammer; and therefore Ray seems to question if they are two distinct species.

**ZOOLOGY.** A term by which we define a discourse



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discourse or treatise on animals, or living creatures. It is derived from *Zoon*, Animal; and *Logos*, Speech.

Zoology forms the most important and entertaining article in natural history; comprehending whatever relates to the conformation, figure, method of living, feeding, and propagating, of the various species of existences, and the descriptions of every kind.

This constitutes one of the three kingdoms, as they are called, of natural history; the vegetable and the mineral forming the two others. In these, however, there is this distinction made by writers: that while vegetables and minerals are jointly treated of, as all of a piece in each; the subjects of Zoology are subdivided, and made, as it were, to compose several kingdoms.

A natural division, therefore, of the subjects of Zoology, will afford six several families: the hairy quadrupeds; the birds; the amphibious animals, such as serpents, lizards, frogs, and tortoises; the fishes; the insects; and, lastly, the lowest order of animated beings, the zoophytes. See *QUADRUPEDS, BIRDS, &c.*

**ZOOPHYTE.** A term compounded of *Zoon*, Animal; and *Phyton*, Plant: expressing a kind of intermediate body, supposed to partake both of the nature of an animal and a vegetable.

In the Linnæan system, the Zoophytes, which constitute the fifth order of worms, are composite animals, resembling a flower, and springing from a vegetating stem. This order contains fifteen genera, nine of which are fixed; the isis, or red coral; the gorgonia, or sea fan; the alcyonium; the sponge; the flustra; the tubularia; the corallines; the sertularia; and the vorticella. Others have a locomotive power; as the hydra, or polype; the pennatula, or sea-pen; the tœnia; the volvox; the furia; and the chaos, or an assemblage of chaotic and microscopic animals.

The species under this order are one hundred and fifty-six.

Zoophytes form the last link in the chain of animated nature: they are a class of beings so confined in their powers, and so defective in their formation, that some naturalists have acknowledged themselves at a loss, whether to consider them as a superior rank of vegetables, or the humblest order of the animated tribe. Indeed, in some of them, the marks of the animal are so few, that it is difficult to give them their place in nature with precision, or to tell whether it is a plant or an insect that is the object of our consideration.

Should it be enquired what constitutes the difference between animal and vegetable life; what line bounds the two great kingdoms from each other; it would be difficult, perhaps impossible, to return an explicit answer. The power of motion cannot alone constitute this distinction; since some vegetables are possessed of motion, and many animals are totally destitute of any. The sensitive plant has obviously a greater variety of motions than the oyster or the pholas. The animal that fills the acorn-shell is immoveable, and can only close it's lid to defend itself from external injury; while the flower which is vulgarly known by the appellation of the fly-trap, seems to close on such flies as alight upon it, and attempt to rattle it of it's honey. The animal, in this instance, appears to have scarcely a power of self-defence;

## ZOO

the vegetable not only guards it's possessions, but seizes on the plunderer that would wish to invade them.

In like manner, the modes of propagation give no superiority to the lower ranks of animals: on the contrary, vegetables are frequently brought forth more conformably to the higher ranks of the creation; and though some plants are produced by cuttings from others, yet the generality of them are propagated from seeds, laid in the womb of the earth, where they are hatched into the similitude of the parent plant or flower. But a most extensive tribe of animals have been discovered, which are propagated by cuttings; and this in so extraordinary a manner, that though the original insect be divided into a thousand parts, each, however small, shall be formed into an animal, entirely resembling that from which it was separated. In this respect, therefore, certain races of animals seem to fall beneath vegetables, by their more imperfect propagation.

Where are we then to find the distinction between them; or are the orders so intimately blended, that a discrimination is impossible? On an attentive consideration of the subject, it would seem, that all animals enjoy one faculty of which vegetables are totally deficient; which is either the actual ability, or the awkward attempt at self-preservation. However vegetables may seem possessed of this important quality, it is with them but a mechanical impulse, resembling the elevating one end of the lever when the other is depressed. The sensitive plant contracts and hangs it's leaves, indeed, when touched; but this motion in no respect contributes to it's safety: the fly-trap flower acts entirely in a similar manner; and though it seems to seize the little animal that would annoy it, in reality it's closing is only a mechanical motion, and this inclosure neither contributes to it's preservation nor defence. But it is very different with insects, even of the lowest order. The earth-worm not only contracts, but hides itself in the earth, and escapes with some degree of swiftness from it's pursuers; the polypus withdraws it's horns; and the star-fish contracts it's arms on the appearance of the most distant danger. They not only hunt for their food, but provide for their safety; and however imperfectly they may be formed, yet still they are in reality placed many degrees above the highest vegetable of the earth, and are possessed of many animal functions adapted to their sphere of action in as perfect a manner as those existences which are more elaborately formed.

But though these are certainly superior to plants, they are removed to an infinite distance from the generality of animated beings. In the class of Zoophytes we may place all those animals which may be propagated by cuttings; or, in other words, which, if divided into two or more parts, each part in time becomes a separate and perfect animal; the head shoots forth a tail; and, on the contrary, the tail produces a head. Some of these will bear dissecting only into two parts, as the earth-worm; some may be divided into more than two, and of this kind are many of the star-fish; others still may be cut into a thousand parts, each becoming a perfect animal; they may be turned inside out; they may be moulded into all manner of shapes; yet still their vivacious principle remains; still every part becomes perfect in it's kind; and, after



## Z O R

after a few days existence, exhibits all the arts and industry of it's humble parent !

Zoophytes may therefore be rationally arranged according to their different degrees of perfection : and, in a general view, the whole order may be reduced to the three subsequent genera ; the worms, star-fish, and the polypi. See WORMS, ASTERIAS or STAR-FISH, POLYPI, &c.

ZORILLE. An animal of the mustela kind, a native of Peru, and other parts of South America. It's back and sides are marked with short

## Z U R

stripes of black and white, the last tinged with yellow ; the tail is long and bushy, partly white, and partly black ; and the legs and belly are black.

This creature emits such a pestilential vapour, that no other animal can approach it : it stupifies or disgusts the fiercest beasts of prey ; and maintains a superiority as despicable as singular.

ZURNAPA. An appellation by which some authors have expressed the animal more usually denominated the camelopard. See CAMELO-PARD.



# ALPHABETICAL ARRANGEMENT OF ANIMALS

Delineated in the Plates accompanying this Work,

ACCORDING TO THEIR RESPECTIVE CLASSES.

## I. QUADRUPEDS.

	PLATE.	FIG.
<b>A GOUTI</b>	I	7
Ant-Eater, Great	III	5
— Lesser	—	6
Antelope, Common	—	7
— Royal	—	8
— White-footed	—	9
Ape, Large; or, Ourang Outang	IV	2
— Pigmy	—	3
— Tufted	—	4
— Long-armed	V	1
Armadillo	IV	7
As	V	2
Baboon, Brown	X	1
— Large	—	2
— Long-tailed	—	3
— Wood	—	4
Babyroussa	—	5
Badger, Common	—	6
Bat, Madagascar, Great	XII	1
— Horse-shoe	—	2
— Long-eared	—	3
— New York	—	4
— Spectre	—	6
Bear, Brown	XVIII	1
— White	—	2
Beaver	—	3
Bison, American	XIV	4
Boar, Wild	XXI	1
Buffalo, Indian, Little	XX	1
— Musk	—	2
Bull, Highland	XVII	1
Camel, Arabian	XXVIII	4
— Baetrian	—	5
Cavy, Patagonian	XXX	6
Cayopolin	—	7
Civet	—	8
Cougar	XXXVIII	1
Deer, Moose, Female	XXXVII	7
— Rein	—	8
Dromedary	XLI	7
Elephant	XLV	3
Ermine	—	4
Glutton	LI	8
Goat, Common	LIII	1
— Syrian	—	2
Hare, Alpine	LV	2
— Varying	—	3
Hedge-hog	LVII	3
Hyaena	—	9
Ichneumon, Indian	LXVI	1
Isatis	—	3
Jerboa, Egyptian	—	8
Leopard, Hunting	LXIII	3
Lion	—	8
Lynx, Bay	LXIV	7
— Persian	—	8
Marmot, Maryland	LXIX	2
— Quebec	—	3
Marten	—	4
Maucauco, Black, or Ruffed	LXVII	1
— Ring-tailed	—	2
— Woolly	—	3
— Flying	LXIX	5
— Tail-less	—	6
Monkey, Negro	LXV	1
— Green	—	2
— Lesser, Cagui	—	3
— Timid	—	4
— Great-eared	LXVII	4
— Little Lion	—	5
— Full-bottomed	LXX	1
— Long-nosed	—	2
— Purple-faced	—	3
— Silky	—	4
— Tawny	—	5
Moufflon	LXXI	1
Musk	—	6
— Indian	—	7
Opoffum	LXXIV	3
Otter	—	6
Paca	LXXIX	1
Panther, Male	—	2
Pecary	LXXXIV	1
Polcat	—	3
Porcupine	—	4
— Brazilian	—	5
Rhinoceros	LXXX	5
Roebuck	LXXXII	2
Sheep, African	LXXXVIII	2
— Many-horned	—	3
Sevah Ghush	—	5
Sloth	LXXXIX	2
Squirrel, Barbary	XCH	2
— Flying	—	3
— Hudson's Bay	—	4
— Varied	—	5

Squirrel, White-nosed	XCH	6
Weasel, Brazilian	C	1
Wolverene	—	2
Zebra	—	5
Zerda	—	6

## II. BIRDS.

Aberdavine	I	1
Albatross	—	8
Amadavade	II	2
Anhima	III	1
Anhinga	—	2
Attagen	V	4
Avofet	—	5
Auk, Common, or Razor-bill	—	6
— Great	—	7
— Little	—	8
Balearic Crane	XI	3
Barbet, Red-crowned	—	6
— Yellow-checked	—	7
Bee-Eater, Indian	XVIII	4
Bird of Paradise, Greater	XIII	1
— Green	—	2
— Golden	—	3
— King, of Edwards	—	4
— Magnificent	—	5
— Pyed	—	6
— Golden-throated	XIV	1
— King, of Sonnerat	—	2
— Violet-throated	—	3
Bittern	—	5
— Brazilian	XXVI	1
— Little Brown	—	2
— North American	—	3
Blackbird, Cock	XXIV	1
— Red-breasted	—	2
Blackcap, Ceylonese	—	3
Blue Bird, Red-bellied	—	10
Boat Bill	XXI	2
Banana Bird	—	3
Booby, New Guinea	—	4
— Papou	—	5
— White-collared	—	6
Bullfinch, Greater	XVII	3
— Little Brown	—	4
— North American	—	5
Bunting, Green headed	XVI	1
— Snow	—	2
Bustard, Arabian	XV	1
— Common	—	2
— Indian	—	3
— Little	—	4
Butcher Bird, Black and White	XVI	3
— Indian Fork-tailed	—	4
— Least	—	5
— Red-crested	—	6
Buzzard, Ash-coloured	XX	3
— Common	—	4
— Moor	—	5
Calandria	XXVIII	2
Calao	—	3
Cardinal, Crested	XXX	1
— Dominican	—	2
Cassowary	—	4
Chaffinch	XXXI	2
Chatterer, of Carolina	—	4
Cockatoo, Great Black	XXIX	1
— Greater	—	2
— White, Red vented	—	3
— White, Yellow-vented	—	4
Coot	XXXVIII	2
Crake	—	9
Crane, Balearic	XXXII	1
— Brown and Ash-coloured	—	2
— Common	—	3
— Hooping	—	4
Creepers, Black and Blue	XXXIII	1
— Black and Red, Indian	—	2
— Black and Yellow	—	3
— Blue	—	4
— Green	—	5
— Lagoon	—	6
— New Zealand	—	7
— Purple, Indian	—	8
Crookbill, Lesser	XXXVI	1
Cuckoo, Great Spotted	XXXIV	1
— Green	—	2
— Indian Black	—	3
— Indian, Brown and Spotted	—	4
— Lark breasted	—	5
— Little	—	6
Cuckoo	XXXVI	3
— Spotted	—	4
Cuckoo, Spotted	—	5
Cuckoo Bird	—	6
Dove, Black and Yellow	XXXVII	2
— Blue and Green	—	3
— Sumatran	—	4

Demoiselle of Numidia	XLII	1
Diver, Northern	—	4
— Purple-throated	—	5
— Red-throated	—	6
Dobchick, Black and White	—	7
— North American, Horned	—	8
Dodo	XLI	1
Dotterel	—	4
Dove, Brown Indian	XXXV	1
— Green	—	2
— Green-winged	—	3
— Long-tailed	—	4
— Transverse Striped	—	5
— Violet, Red-headed	—	6
Duck, Great Black	XXXIX	1
— Grey-headed	—	2
— Eider	—	3
— Ferruginous	—	4
— Little Black and White	—	5
— Little Brown and White	—	6
— Dusky and Spotted	XL	2
— Summer, of Carolina	—	3
— Red-billed, or Whistling	—	4
— Velvet	—	5
Ducker, or Loon	—	6
Eagle, Black-backed	XLIV	1
— Cinereous	—	2
— Crowned	—	3
— Ring-tailed	—	4
— Common	XLV	1
Egret	—	2
Falcon, Gentle	XLVI	1
— Gyr	—	2
— Spotted	—	3
— Peregrine	—	4
Finch, Red and Blue, Brazilian	—	6
— Long tailed	—	7
— Painted	—	8
Fly-Catcher, Golden-winged	XLIII	1
— Green, Indian	—	2
— Green, Black-throated	—	3
— Green, Blue-headed	—	4
— Little, Blue-grey	—	5
— Olive-coloured	—	6
— Yellow-breasted	—	7
— Yellow-tailed	—	8
— Yellow-vented	—	9
Gallinule, Common	LI	1
Gambet	—	2
Gannet	—	3
Garganey	—	4
Goatsucker	LIII	3
— Lesser	—	4
Godwit, Cinereous	XLVII	1
— Great American	—	2
— Red	—	3
— Red-breasted	—	4
Gouvier	—	5
Goldfinch	XLVIII	1
— Green	XLVII	6
Goose, Blue-winged	XLVIII	2
— White-fronted	—	3
— White-winged, Antarctic	XLIX	5
— Canada	—	6
Goosander, Common	—	3
— Red breasted	—	4
Gowry-Bird	XLVIII	4
Grebe, Eared	—	6
Greenfinch, Red-headed	XLVII	7
— Indian	XLVIII	7
Grenadier	—	1
Grosbeak, Common	—	2
— Blue	—	3
— Malacca	—	4
— Pine	—	5
Grouse, Black	—	6
— Long tailed	—	7
— Pin-tailed	—	8
— Wood	—	9
Guillemot, Spotted	LII	3
Gura Guacubera	—	4
Gull, Common	—	1
— Winter	—	2
Hawk, Indian, Black and Orange	LV	4
— Marsh	—	5
— Ring-tailed	—	6
Heathcock, Black and Spotted	LVI	1
— Ruffed	—	2
Heron, Common	—	5
— North American, Ash-coloured	—	6
Hoopoe	—	7
Humming Bird, Crested	LIV	1
— Green, Black-bellied	—	2
— Little Brown	—	3
— Long-tailed, Black-cap	—	4
— Long-tailed, Green	—	5
— Red, Long-tailed	—	6

Humming-



# ALPHABETICAL ARRANGEMENT OF ANIMALS DELINEATED.

Humming-Bird, Red-throated	LIV	7
— Ruby-crested	—	8
— White-bellied	—	9
Jacamaciri	LXVI	5
Jacarini	—	4
Jay, Blue	—	6
— Blue, East Indian	—	7
Icterus, Black-headed	LXVI	2
Kingfisher, Black and White	LXI	1
— Crested	—	2
— Great	—	3
— of Luzon	—	4
— Little Green and Orange	—	5
— Spotted	—	6
— Surinam	—	7
— White-collared	—	8
Lanner	LXIII	1
Lark, Red	—	2
Linnet, Angola	—	4
— Black	—	5
— Olive-coloured	—	6
— Yellow-headed	—	7
Lory, Black-capped	LXII	2
— Red-breasted	—	3
— Scarlet	—	4
— Long-tailed, Scarlet	—	5
Macaw, Blue and Red	LXVIII	1
— Blue and Yellow	—	2
Man of War Bird	—	3
Manakin, Blue-backed	—	4
— Purple-breasted	—	5
— White-faced	—	6
Minor, Greater	LXIX	7
— Lesser	—	8
Nightingale, American	LXXIV	1
Nutcracker	—	2
Oriole, Yellow-shouldered	—	4
Ostrich, Black	—	5
Ouzel, Rose-coloured	—	7
Owl, Brown	LXXII	1
— of Athens	—	2
— Ceylonese	—	3
— Great White	—	4
— Little	—	5
— Little Hawk	—	6
— Long-eared	—	7
— Short-eared	—	8
Parrot, Little Green and Red	VII	1
— Long-tailed	—	2
— Lory	—	3
— Red and Blue-headed	—	4
— Ring, Rose-headed	—	5
— Yellow-faced	—	6
— Blue winged	VIII	1
— Brown-throated	—	2
— Golden-crowned	—	3
— Little Green and Blue	—	4
— East Indian	—	5
— Smallest Red and Green	—	6
— Golden-winged	LXXV	1
— Little Red-headed	—	2
— Ring	—	3
— Sapphire Crowned	—	4
Parrot, Ash-coloured and Red	VI	1
— Brazilian Green	—	2
— Great Green	—	3
— Lesser Green	—	4
— White-breasted	—	5
— White-headed	—	6
— Blue-breasted	IX	1
— Blue-headed	—	2
— Dusky	—	3
— Little Dusky	—	4
— Hawk-headed	—	5
— Little Green	—	6
— Black	LXXV	5
— Blue-faced Green	—	6
Partridge, Mountain, of Jamaica	LXXIX	3
— Red legged	—	4
— White	—	5
Peacock, Wild, of Sonnerat	LXXVI	1
Pheasant, African	LXXIII	1
— American	—	2
Penguin, Black-footed	—	3
— Northern	—	4
Petrel, Spotted	—	5
— Manks	—	6
Phalarope, Red	LXXVI	2
Pheasant, Black and White Chinese	—	3
— Painted Chinese	—	4
— Peacock	—	5
Pigeon, Great Crowned, Indian	LXXVIII	1
— Grey, of Luzon	—	2
— Pompadour	—	3
— Purple	—	4
— Triangular, Spotted	—	5
— of Nicobar	—	6
Plover, Black-breasted, Indian	LXXXIII	3
— Spotted American	—	4
Pye, Crested, Long tailed	LXXXVII	1
— Green, of Ceylon	—	2
— Grey of Brazil	—	3
— Short tailed	—	4
— Yellow winged	—	5
Rail, of Loten	LXXXI	1
Rail Bird, Summer	—	2
— of Surinam	—	3
Red-bellied, Blue	—	4
Red-bellied, Yellow	—	5
Redstart, American	LXXX	1

Redstart, Blue-throated	LXXX	2
— Grey	—	3
— Indian	—	4
Rice Bird	LXXXII	1
Roller	—	3
Ruff	—	5
Sanderling	LXXXVI	2
Sandpiper, Red	—	3
— Red, Scollop-toed	LXXXV	1
Schomburger	—	6
Secretary	—	5
Serpent-Eater	LXXXVII	1
Shag	—	2
Shirley	LXXXVIII	4
Snipe	LXXXIX	5
Snow-Bird	—	6
Sparrow, Chinese	XCI	1
— Common	—	2
— White-breasted, Indian	—	3
— Yellow-tailed, Indian	—	4
— Little	—	5
— of Paradise	—	6
— Solitary	—	7
— Tree	—	8
Spoonbill	XCIII	1
Starling, Black and White Indian	XC	1
— Common	—	2
— Silky	—	3
— Yellow Indian	—	4
Swallow	XCII	1
Swan	—	2
— Wild	—	3
Swift	—	4
Teal, Chinese	XCIX	1
Thrush, Golden	—	2
Titmouse, Golden	—	3
Toucan, Red-beaked	—	5
Vultures, King of	XCVIII	1
— Crested, Black	—	2
Wagtail, Grey	—	3
Wall Creeper	—	4
Water-Hen, Purple	—	5
— Spur-winged	—	6
Woodpecker, Spotted Indian	C	3
— Yellow Spotted	—	4
III. FISHES.		
Anchovy	II	3
Angel Fish	—	4
Angler, Common	—	5
Argentine	IV	6
Atherine	V	3
Balance-Fish	XI	1
Ballan	—	4
Barbel	—	5
Basse	—	8
Bat, Sea	XII	5
Bib	XVIII	6
Bleak	XXIV	4
Blenny, Crested	—	5
— Gattorugine	—	6
— Smooth	—	7
— Spotted	—	8
— Viviparous	—	9
Bream	—	11
Bull-Head	XVII	6
— Armed	—	7
Cachalot, Blunt-headed	XXVIII	1
Carp	XXX	3
Cat-Fish	—	5
Chair	XXXI	3
Chub	—	7
Coal-Fish	—	8
Dab Smear	XXXVII	1
Diodon, Globe	XLII	2
— Short	—	3
Dog-Fish	XLI	2
Dorce	—	3
Dragonet	—	4
Fatherlather	XLVI	5
Gattorugine	LI	5
Gilt-head, Lenuated	—	6
— Toothed	—	7
Goby, Black	LIII	5
— Spotted	—	6
Gold Fish	XLIX	8
Goldfinny	—	2
Grayling	XLVIII	5
Gurnard, Grey	LII	5
— Suppurne	—	6
— Striped	—	7
Gefinud	—	8
Hake, Forked	LV	1
Horned Fish	LVI	8
Lance	LXIV	1
Mango-Fish	LXIX	1
Mullet	LXXI	2
Pech	LXXXIV	2
Pike	LXXXIII	1
Pilchard	—	2
Pipe Fish	—	5
Rod	LXXXII	4
Salmon	LXXXVI	1
Scad	LXXXV	1
Shark, Beaumaris	LXXXVII	3
— Long-tailed	—	4
— Smooth	—	5
— Spotted	LXXXVIII	1
Skate	LXXXIX	1
Smelt	—	5
Summulet	XC	5
Sword-Fish	XCI	5

## IV. REPTILES, AND AMPHIBIOUS ANIMALS.

Acontias	I	2
Alligator	II	1
Blind-Worm	XXIV	12
Lizard, Great, Spotted	LXII	6
— Brown	—	7
— Large, Green and Spotted	—	1
— Scaly	—	4
— Thorny-tailed Indian	—	5
— Warty	—	6
Seal	LXXXV	3
— Harp	—	4
Snake, Ringed	LXXXIX	4
Viper	XCIX	7

## V. INSECTS.

Admirable	I	3
— White	—	4
Angle Shades	II	6
Ant, Common	III	3
— Neutral	—	4
Ant-Eater/Fly	IV	1
Arterias Lizard	—	8
— Tgn-rayed	—	9
Bees	XVIII	5
Beetle, Elephant	XCIV	1
— Stag	—	2
— Brads	—	3
— Green Tortoise	—	4
— Shield	—	5
— Seven-spotted Lady-cow	—	6
— Two-spotted Lady-cow	—	7
— Four-spotted Lady-cow	—	8
— Capricorn	—	9
— Musk	—	10
— Unicorn	—	11
— Dorr, or Chafer	—	12
Butterflies XIX, XXIII, XXV, XXVII	—	—
Centipce	XXXI	1
Chinch, Straw-coloured	—	5
— Tawny	—	6
Day-Fly, Rock	XXXVII	5
— White-winged	—	6
Dragon-Fly	XL	5
Moths LVI, LVIII, LIX, LX	—	—
Savage, Comb-footed	LXXXVI	4
— Turner	—	5
Saw-Fly, Mottled	—	6
— Mourning	—	7

## VI. CRUSTACEOUS AND TESTACEOUS ANIMALS.

Admiral	XCVI	6
— Grand	I	5
— Rear	—	6
Alphabet	XCVI	7
Anomia	II	7
Balanus	XI	2
Bivalves	XXVI	4
Buccina, or Whelks	XXII	—
B. ilze	XVII	2
Chama, or Gaper	XCIV	3
Crab, Horned	XXXVIII	9
— Indian Land	—	4
— Indian Sea	—	5
— Long-clawed	—	6
— Slender-legged	—	7
— Spider	—	8
Cockle Heart	XCIV	3
— Multarticulate	—	4
— Truncated	—	5
Cuttle-Fish	XXXVI	7
Cyprea	—	8
Ducal Mantle	XL	1
Ear-Shell	XCVII	4
— White	—	5
Helmet-Shell	LVII	4
Lamper, Chambered	XCVII	6
— Goat's-Eye	—	7
— Common	—	8
— Masked	—	9
Littus	XCVI	3
Melon	—	8
Mouth-Shell	—	11
Merex Rhombi	LXXI	1
— Rock	—	4
— Winged	—	5
Nauticus, Fairly	XCVI	1
Nerite, Magpye	XCVII	3
Orthoceres	XCVI	4
Oyster, Pearly	XCIV	6
— Huer	—	8
— Common	—	10
— Pellucid	—	11
Pholas, a Nub valve	XCVII	1
Snail, Long-tubed	XCIV	13
— Ram's-Horn	XCVII	1
— Short-tubed	—	2
Solen, or Razor Shell	XCIV	1
Spandyle	—	7
Tellen	—	8
Tiger, Yellow	XCVI	5
Tooth Shell, Green	XCVII	11
— Brown	—	12
Tortoise, African	XCIX	4
Tun, Knobbed	XCVI	10
Turtle, Fiddle	XCIX	6
Whitening Pot Shell	XCVII	13
Weaver's Shell	XCVI	13
Whelk, Beaked	—	9
Worm Tubes	XCVII	10